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NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

SALISBURY

THOROUGHFARE PLAN

DECEMBER 1983

DIVISION OF HIGHWAYS

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SALISBURY
THOROUGHFARE PLAN

Prepared by:

Thoroughfare Planning Unit,
Planning and Research Branch
Division of Highways
N. C. Department of Transportation

In Cooperation with:

City of Salisbury
Town of Spencer
Town of East Spencer
Town of Granite Quarry
United States Department of Transportation

December, 1983

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I. INTRODUCTION

Safe, efficient transportation has for many years been a primary goal. Fewer construction funds and higher driving costs and construction costs have made road improvements more innovative and selective. Because of the many problems that exist right now, planning has a tendency to become very near sighted, thus failing to incorporate short range plans into long range concepts. This is one of the basic reasons for having a thoroughfare plan and for keeping it up to date.

The existing thoroughfare plan for Salisbury was developed based on a study that was completed in 1974. This system was designed to carry traffic through the year 1995. In 1979 a minor revision was made to change the Outer Loop alignment between SR 1911 and US 70 to avoid a new school.

Some of the major improvements that have been built since 1971 are listed below:

1. Brenner Avenue - Horah Street to Wilkesboro Road

2. Statesville Boulevard - North of Main Street to Concord Road

3. Innes Street - widening from Clay Street to Green Street

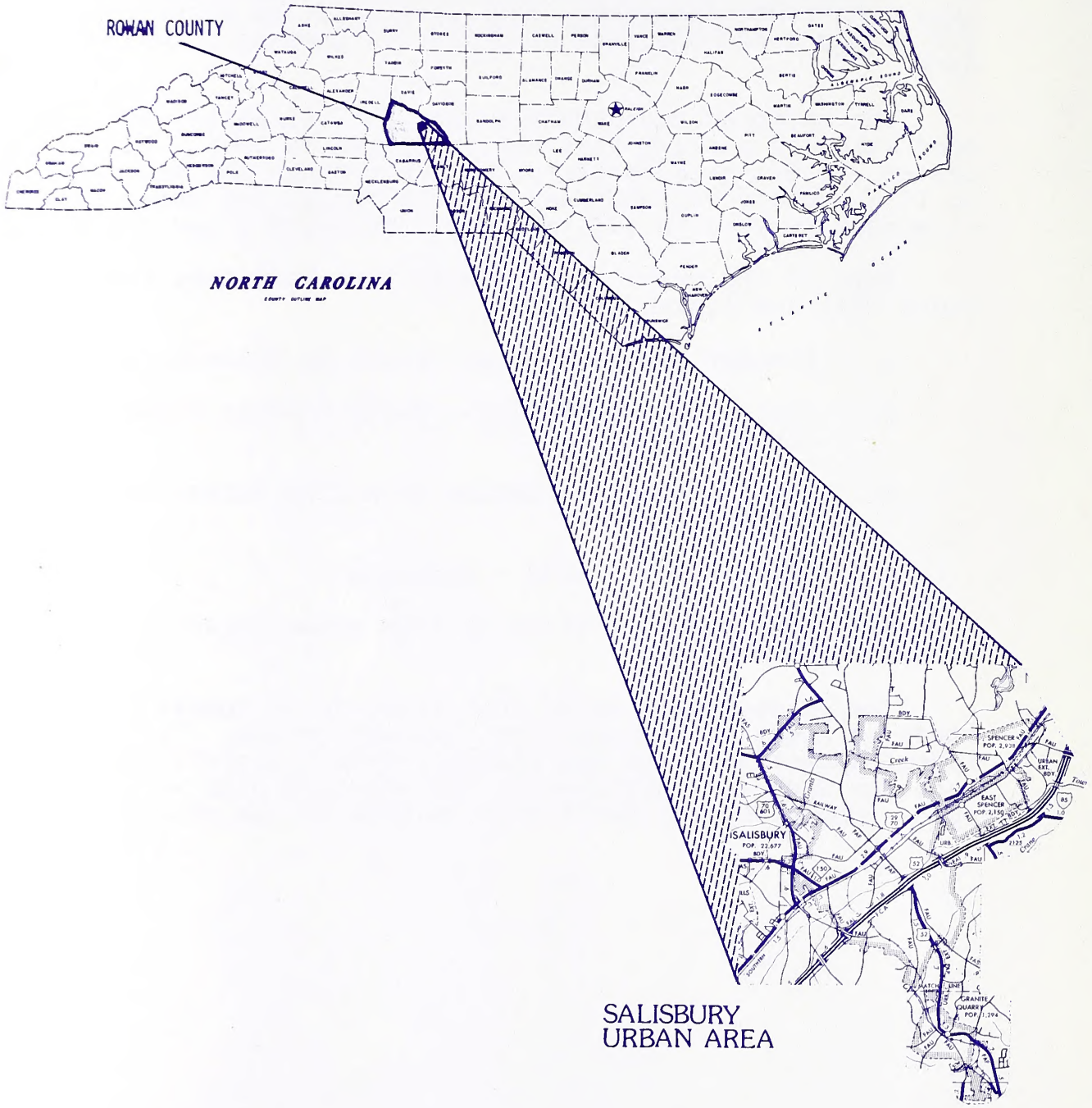
4. Bringle Ferry Road - widening

5. Long Street - widening from Innes Street to Horah Street

The primary purpose of this study is to update the 1974 study in light of changes over the past decade. Using recent street and land use changes, future projections were made for 2005 and revisions to the existing plan were developed. These changes are listed on page 23 and shown in Figure 7.

GEOGRAPHIC LOCATION

FIGUR



II. THOROUGHFARE PLANNING PRINCIPLES

Typically, the urban street system occupies 25 to 30 percent of the total developed land in an urban area. Since the system is permanent and expensive to build and maintain, much care and foresight are needed in its development. Thoroughfare planning is the process public officials use to assure the development of the most appropriate street system that will meet existing and future travel desires within the urban area.

The primary aim of a thoroughfare plan is to guide the development of the urban street system in a manner consistent with changing traffic demands. Through proper planning for street development, many costly errors and needless expenses can be averted. A thoroughfare plan will enable street improvements to be made as traffic demands increase, and help eliminate unnecessary improvements. By developing the urban street system to keep pace with increasing traffic demands, a maximum utilization of the system can be attained that will require a minimum amount of land for street purposes. In addition to providing for traffic needs, the thoroughfare plan should embody those details of good urban planning necessary to present a pleasing and efficient urban community. The location of present and future population, commercial, and industrial enterprises, affects major street and highway locations. Conversely, the location of major streets and highways within the urban area will influence the urban development pattern.

Other objectives of a thoroughfare plan include:

(1) To provide for the orderly development of an adequate major street system as land development occurs;

(2) To reduce travel and transportation costs;

(3) To reduce the cost of major street improvements to the public through the coordination of the street system with private action;

(4) To enable private interests to plan their actions, improvements, and development with full knowledge of public intent;

(5) To minimize disruption and displacement of people and businesses through long range advance planning for major street improvements;

(6) To reduce environmental impacts such as air pollution, resulting from transportation;

(7) To increase travel safety.

Thoroughfare planning objectives are achieved through both: (1) improving the operational efficiency of thoroughfares; and (2) improving the system efficiency through system coordination and layout.

Operational Efficiency

A street's operational efficiency is improved by increasing the capability of the street to carry vehicular traffic and people. In terms of vehicular traffic, a street's capacity is defined as the maximum number of vehicles which can pass a given point on a roadway during a given time period under prevailing roadway and traffic conditions. Capacity is affected by the physical features of the roadway, nature of traffic and weather.

Physical ways to improve vehicular capacity include: Street widening, intersection improvements, improving vertical and horizontal alighment, and eliminating roadside obstacles. For example, widening of a street from two to four travel lanes more than doubles the capacity of the street by providing additional maneuverability for traffic. Impedances to traffic flow caused by slow moving or turning vehicles and adverse effects of horizontal and vertical alignments are thus reduced.

Operational ways to improve street capacity include:

(1) Control of access - A roadway with complete access control can often carry three times the traffic handled by a non-controlled access street with identical lane width and number.

(2) Parking removal - Increases capacity by providing additional street width for traffic flow and reducing friction to flow caused by parking and unparking vehicles.

(3) One-way operation - The capacity of a street can sometimes be increased 20-50%, depending upon turning movements and overall street width, by initiating one-way traffic operations. One-way streets can also improve traffic flow by decreasing potential traffic conflicts and simplifying traffic signal coordination.

(4) Reversible lanes - Reversible traffic lanes may be used to increase street capacity in situations where heavy directional flows occur during peak periods.

(5) Signal phasing and coordination - Uncoordinated signals and poor signal phasing restrict traffic flow by creating excessive stop-and-go operation.

Altering travel demand is a third way to improve the efficiency of existing streets. Travel demand can be reduced or altered in the following ways:

(1) Encourage people to form carpools and vanpools for journeys to work and other trip purposes. This reduces the number of vehicles on the roadway and raises the people carrying capability of the street system.

(2) Encourage the use of transit and the bicycle mode.

(3) Encourage industries, businesses, and institutions to stagger work hours or establish variable work hours for employees. This will reduce travel demand in peak periods and spread peak travel over a longer time period.

(4) Plan and encourage land use development or redevelopment in a more travel efficient manner.

System Efficiency

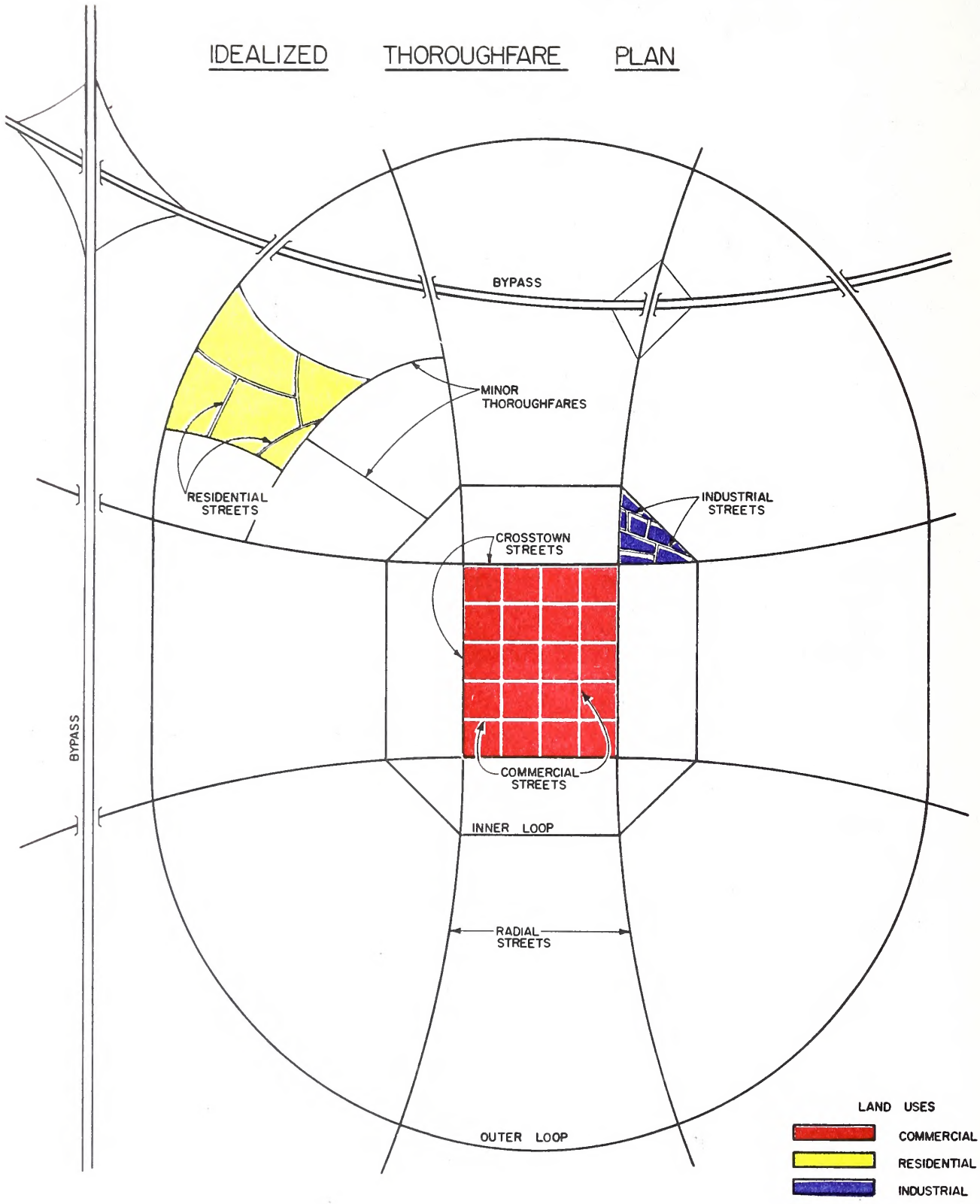
Another means for altering travel demand is the development of a more efficient system of streets that will better serve travel desires. A more efficient system can reduce travel distances, time, and cost. Improvements in system efficiency can be achieved through the concept of functional classification of streets and development of a coordinated major street system.

Functional Classification

Streets perform two primary functions--traffic service and land service, which when combined, are basically incompatible. The conflict is not serious if both traffic and land service demands are low. However, when traffic volumes are high, conflicts created by uncontrolled and intensely used abutting property lead to intolerable traffic flow friction and congestion.

The underlying concept of the thoroughfare plan is that it provides a functional system of streets which permits travel from origins to destinations with directness, ease, and safety. Different streets in the system are designed and called on to perform specific functions, thus minimizing the traffic and land service conflict. Streets are categorized as to function as local access streets, minor thoroughfares, or major thoroughfares (see Figure 1).

FIGURE I


IDEALIZED THOROUGHFARE PLAN
BYPASS
MINOR THOROUGHFARES
RESIDENTIAL STREETS
INDUSTRIAL STREETS
CROSSTOWN STREETS
BYPASS
COMMERCIAL STREETS
INNER LOOP
RADIAL STREETS
OUTER LOOP
LAND USES
COMMERCIAL
RESIDENTIAL
INDUSTRIAL

Local Access Streets provide access to abutting property. They are not intended to carry heavy volumes of traffic and should be located such that only traffic with origins and destinations on the streets would be served. Local streets may be further classified as either residential, commercial, and/or industrial depending upon the type of land use which they serve.

Minor Thoroughfares are more important streets in the city system. They collect traffic from local access streets and carry it to the major thoroughfare system. They may in some instances supplement the major thoroughfare system by facilitating minor through traffic movements. A third function which may be performed is that of providing access to abutting property. They should be designed to serve limited areas so that their development as major thoroughfares will be prevented.

Major Thoroughfares are the primary traffic arteries of the city. Their function is to move intra-city and inter-city traffic. The streets which comprise the major thoroughfare system may also serve abutting property; however, THEIR MAJOR FUNCTION IS TO CARRY TRAFFIC. They should not be bordered by uncontrolled strip development because such development significantly lowers the capacity of the thoroughfare to carry traffic and each driveway is a danger and an impediment to traffic flow. Major thoroughfares may range from a two-lane street carrying minor traffic volumes to major expressways with four or more traffic lanes. Parking normally should not be permitted on major thoroughfares.

Idealized Major Thoroughfare System

A coordinated system of major thoroughfares forms the basic framework of the urban street system. A major thoroughfare system which is most adaptable to desire lines of travel within an urban area and which permits movement between various areas of the city with maximum directness is the radial-loop system. This system consists of several functional elements-radial streets, crosstown streets, loop system streets, and bypasses (Figure 1-A).

Radial streets provide for traffic movement between points located in the outskirts of the city and the central area. This is a major traffic movement in most cities, and the economic strength of the central business district depends upon the adequacy of this type of thoroughfare.

If all radial streets crossed in the central area, an intolerable congestion problem would result. To avoid this problem, it is very important to have a system of crosstown streets which form a loop around the central business district. This system allows traffic moving from origins on

one side of the central area to destinations on the other to follow the area's border and allows central area traffic to circle and then enter the area near a given destination. The effect of a good crosstown system is to free the central area of crosstown traffic, thus permitting the central area to function more adequately in its role as a pedestrian shopping area.

Loop system streets move traffic between suburban areas of the city. Although a loop may completely encircle the city, a typical trip may be from an origin near a radial thoroughfare to a destination near another radial thoroughfare. Loop streets do not necessarily carry heavy volumes of traffic, but they function to help relieve central areas. There may be one or more loops, depending on the size of the urban area, and they are generally spaced one-half mile to one mile apart, depending on the intensity of land use.

A bypass is designed to carry traffic through or around the urban area, thus providing relief to the city street system by removing from it traffic which has no desire to be in the city. Bypasses are usually designed to through highway standards, with control of access. Occasionally, a bypass with low traffic volume can be designed to function as a portion of an urban loop. The general effect of bypasses is to expedite the movement of through traffic and to improve traffic conditions within the city. By freeing the local streets for use by shopping and home-to-work traffic, bypasses tend to increase the economic vitality of the local area.

Application of Thoroughfare Planning Principles

The concepts presented in the discussion of operational efficiency, system efficiency, functional classification, and idealized major thoroughfare system are the conceptual tools available to the transportation planner in developing a thoroughfare plan. In actual practice, thoroughfare planning is done for established urban areas and is constrained by existing land use and street patterns, existing public attitudes and goals, and current expectations of future land use. Compromises must be made because of these and the many other factors that affect major street locations.

Throughout the thoroughfare planning process it is necessary from a practical viewpoint that certain basic principles be followed as closely as possible. These principles are as follows:

1. The plan should be derived from a thorough knowledge of today's travel - its component parts, as well as the factors that contribute to it, limit it, and modify it.

2. Traffic demands must be sufficient to warrant the designation and development of each major street. The thoroughfare plan should be designed to accommodate a large portion of all major traffic movements on relatively few streets.

3. The plan should conform to and provide for the land development plan of the area.

4. Certain considerations must be given to urban development beyond the current planning period. Particularly in outlying or sparsely developed areas which have development potential, it is necessary to designate thoroughfares on a long-range planning basis to protect rights of way for future thoroughfare development.

5. While being consistent with the above principles and realistic in terms of travel trends, the plan must be economically feasible.

III. EXISTING AND PROJECTED CONDITIONS

Salisbury and the Region

Salisbury-Spencer-East Spencer and Granite Quarry are located in Rowan County in the center of the industrial crescent of the North Carolina Piedmont (Figure 1). The urban area is formed by the Cities of Salisbury and Spencer and the Towns of East Spencer and Granite Quarry. The topography within the urban area varies from large areas with gently rolling slopes to other areas with steeply rolling terrain. The average ground elevation is approximately 750 feet above mean sea level.

Highway service is provided by Interstate 85, US 29, US 52, US 70, US 601, and NC 150. In addition to these principal routes, an extensive secondary system connects the area with all sections of the county. Rail service is provided by the main line of the Southern Railway.

The area is both a retail trade and industrial center. It has a relatively large retail trade area that extends into portions of Cabarrus, Davidson, Davie, and Stanly Counties. Industry is diversified with several manufacturing and processing industries located in the area. Textiles is the dominant industry in terms of employment.

The planning area was divided into 97 traffic zones for analysis purposes in the 1971 study. An additional zone was created in this study to include development that has taken place since 1971 near the west planning area boundary (Figure 2).

Factors Affecting Transportation

The factors of population, economy, and land use play a significant role in determining the transportation needs of the planning area. Examination of these factors helps to explain historic travel patterns and lays the groundwork for thoroughfare planning.

In order to formulate an adequate 25 year thoroughfare plan, reliable forecasts of future travel characteristics must be achieved. Such forecasts are possible only when the following major items are carefully analyzed: (1) historic and potential population changes; (2) significant trends in the economy; (3) character and intensity of land development; (4) motor vehicle registration and usage; and (5) environmental conditions. Additional items that vary in influence include the effects of legal controls such as subdivision regulations and zoning ordinances, availability of public utilities and transportation facilities, and topographic and other physical features of the urban area.

Population

Population growth for the Salisbury planning area has been a little faster in the 1970's than in the 1960's, while growth within the Salisbury City limits has been slower during the past decade. This is a reflection of the growing desire to live outside the city limits but still close enough to enjoy the social amenities of an urban lifestyle. Projections based on past trends yield a 2005 planning area population of 57,000. This will represent approximately half the projected population for Rowan County and over double the projected population for Salisbury proper. Zonal population data is given in Table 11, Appendix A. A summary is given in Table 1.

TABLE 1

Population Trends and Projections						
Year	1940	1950	1960	1970	1980	2005
Rowan County	69,206	75,410	82,817	90,035	99,186	119,000
Six Townships	42,280	46,303	51,877	56,230	63,398	77,500
Planning Area	32,606	35,543	38,587	41,645	46,915	57,000
Salisbury	19,037	20,102	21,297	22,515	22,677	24,500
Spencer	3,072	3,242	2,904	3,075	2,938	3,000
E. Spencer	2,181	2,444	2,171	2,217	2,150	2,000
Granite Quarry	555	591	1,059	1,344	1,294	1,100

Economy and Employment

One of the more important factors to be considered in estimating the future traffic or population growth of an area is the area's economic base. The number of employees and the employee's income or purchasing power determines how much population can be supported in the area and the number of motor vehicles that will be locally owned and operated.

According to the 1980 census report, the median family income for Salisbury was $16,715 while Spencer's was $17,734, Rowan County's median income was $17,526 and the State's as a whole was $16,792. It can be seen that the planning area average family income is only slightly higher than that of the State and therefore should follow general statewide trends in areas of transportation affected by economic change.

The planning area's 1981 employment, as shown by survey, is given in Table 2. As evidenced by this data, it is readily apparent that the backbone of the area economy is industry. Of the 10,535 persons employed by industry, the majority are employed in textile related industries.

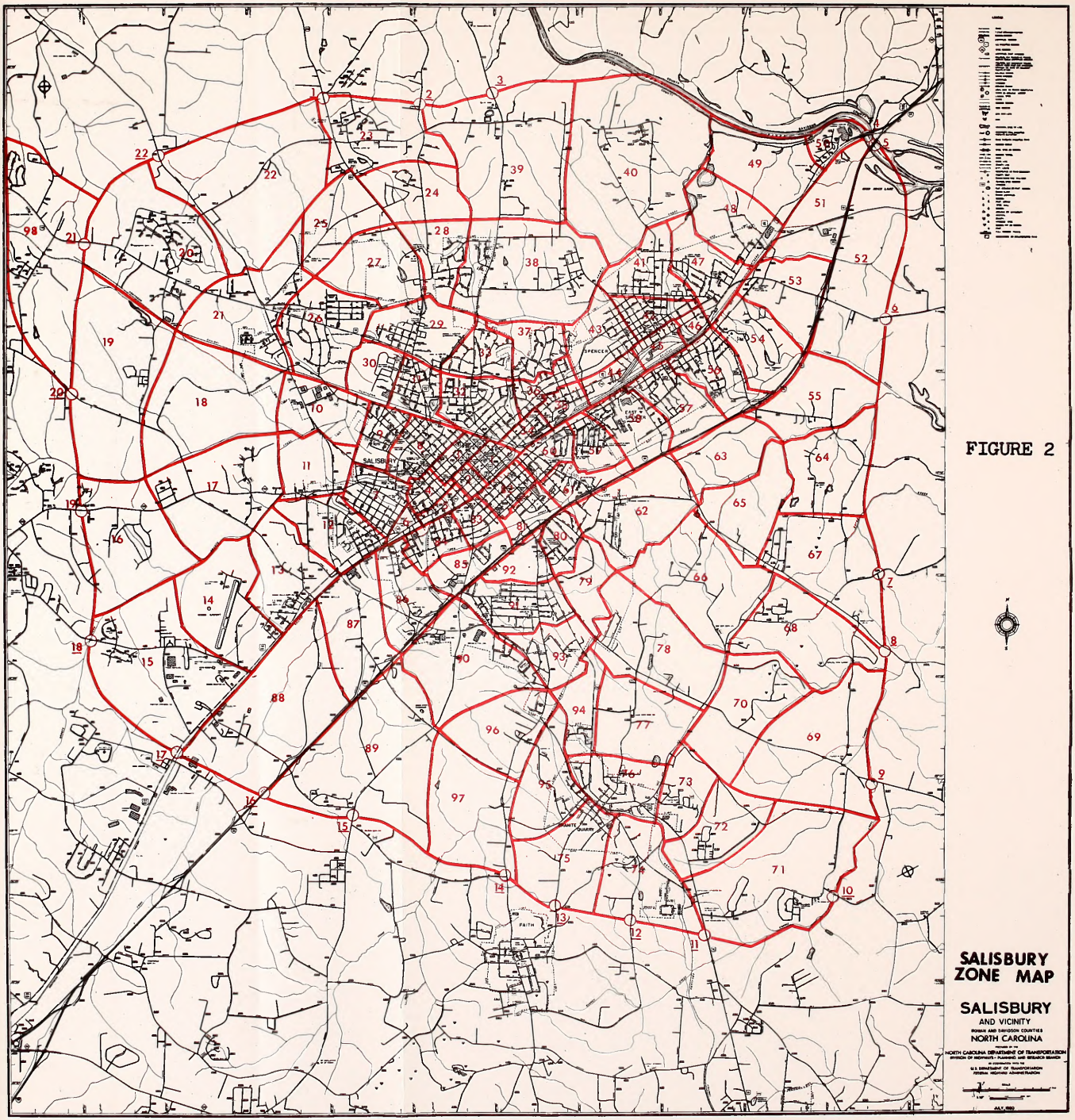

SALISBURY
ZONE MAP
SALISBURY
AND VICINITY
ROWAN AND DAVIDSON COUNTIES
NORTH CAROLINA
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS - PLANNING AND RESEARCH BRANCH
MAY, 1980

FIGURE 2

TABLE 2

1981 Planning Area Employment by Type					
Employment Group	SIC Codes	Number Employed		Percent of Total	
		1971	1981	1971	1981
Industrial	I-49	8,951	10,535	46.9	46.3
Retail and Wholesale	50-54, 56-57, 59	2,795	3,921	14.7	17.2
Highway Retail	55, 58	1,063	1,287	5.6	5.7
Office	60-67, 91-94	1,726	1,836	9.0	8.1
Service	70-76, 78-89, 99	4,543	5,153	23.8	22.7
Total		19,078	22,732	100.0	100.0

The total of 22,732 workers represents 48.5% of the total planning area population. This percentage was used to project the number of persons who should be employed in 2005. The percentage by employment group was also held constant through the planning period. After employment projections were made, a breakdown of employment by zone was made. Zonal employment data for the planning area is given in Table 13, Appendix A.

Vehicle Ownership Trends

The number of automobiles and trucks registered in North Carolina increased from 1,704,204 in 1960 to 4,332,030 in 1979, an increase of approximately 154 percent. During the same period, vehicle registration in Rowan County increased by approximately 115 percent. Automobile and truck registration data for the years 1960-1980 are given in Table 3. Data from 1980 is not comparable to previous years because of the change in registration policy.

Vehicle registration has increased at a much greater rate than has population. The increase in vehicle registration as compared to the increase in population can best be shown by a graph depicting the change in the persons per vehicle ratio over time. This ratio is obtained by dividing the total population of the area by the number of autos and trucks registered in the area. The fact that commercial trucks are included in this calculation causes the projected State ratio to drop below 1.00 by 2005. Figure 3 shows persons per vehicle trends for both the County and the State with projections to the year 2010.

The vehicle ownership rates for both Rowan County and North Carolina have continually declined. The persons per vehicle ratio for Rowan County has decreased at a slightly

TABLE 3

Automobile and Truck Registration (1960-1980)				
Year	North Carolina	Rowan County	Salisbury	Spencer
1960	1,704,203	31,188	17,938	1,509
1961	1,771,913	31,624	18,248	1,504
1962	1,828,725	32,147	18,536	1,497
1963	1,922,792	33,451	19,300	1,532
1964	2,011,682	34,785	20,023	1,550
1965	2,136,003	36,369	21,045	1,611
1966	2,286,369	39,152	22,805	1,726
1967	2,402,353	40,986	23,979	1,762
1968	2,534,166	43,249	25,196	1,852
1969	2,635,651	44,476	25,864	1,932
1970	2,742,673	45,813	26,845	1,937
1971	2,915,037	48,292	28,319	2,054
1972	3,129,564	50,862	29,865	2,123
1973	3,350,976	54,270	31,962	2,197
1974	3,471,270	55,046	32,320	2,226
1975	3,597,023	56,681	33,288	-
1976	3,794,917	59,330	34,611	-
1977	3,978,192	62,191	36,425	-
1978	4,187,415	65,121	38,150	-
1979	4,332,030	66,578	39,186	-
1980	3,896,544	67,124	34,884	2,157

% Increase In Vehicle Registration 1960-1979			
	Auto	Truck	Auto & Truck
N.C.	141%	209%	154%
Rowan Co.	99%	189%	113%

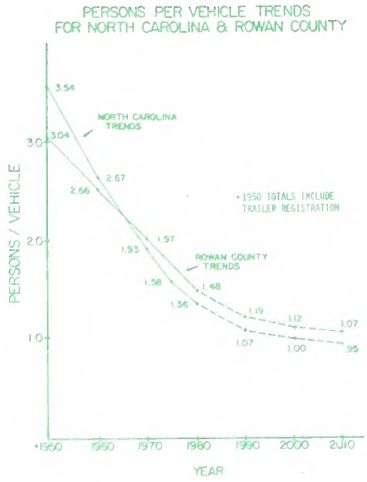


FIGURE 3

lower rate than the State ratio due to a higher percentage of increase in registered vehicles statewide.

Based on a projected persons per vehicle ratio of 1.10 for Rowan County, it is expected that in 2005 there will be approximately 108,180 vehicles operating in Rowan County.

Land Use

The amount of traffic on a particular street is very closely related to the adjacent land use. The association between land use and travel and the attraction between different types of land use vary with the size, type, intensity and spatial separation of the uses. For the purposes of transportation planning, land uses are grouped into four categories: (1) residential, (2) industrial, (3) commercial, and (4) public.

An analysis of existing land use serves as a basis for forecasting future land use needs and the resulting travel patterns. The majority of land use within the planning area is residential. Areas of recent residential growth are scattered throughout the planning area with the most significant growth occurring north and west of Salisbury as shown in Figure 4. Commercial areas are largely concentrated on Main Street and Innes Street in the Salisbury Central Business District, near the I-85 - Innes Street interchange, and on Woodleaf Road. Industrial land uses are primarily textile and textile related manufacturing, and are located along US 29, I-85 and Woodleaf Road. Public and recreational areas are predominently located north of the CBD and just south of Grants Creek and its tributaries.

Land use projections for 2005 were made by Salisbury's Planning Department and were based on a variety of interactive variables that reflect the past and represent future land use desires. Industrial development is expected between I-85 and US 601 near Rowan Airport, along the railroad in Spencer and northwest of I-85. Commercial development is expected to be predominantly in the CBD, Salisbury Boulevard and along Innes Street. Park and recreational facilities will continue in their present locations. Residential development will be the dominant land use with growth dependent on the following basic criteria:

1. availability of water
2. availability of sewage
3. access to thoroughfares
4. land values
5. previous growth rate
6. access to local business
7. topographic conditions
8. soil conditions
9. land available

Travel

Traffic volume counts on existing streets show where existing travel is occuring. While these counts are useful in evaluating the physical ability of the existing system, they reveal little as to the actual travel desires (origins and destinations) of the motorist and they permit no evaluation of the functional sufficiency of the system. For thoroughfare planning purposes, a comprehensive knowledge of the origins and destinations of existing traffic and estimated future traffic is essential.

The type, intensity, and location of the population and employment within an area largely determine the travel patterns. The method used to predict future travel involves the development of mathematical models relating population and employment to travel. Models are developed to (1) estimate trips produced (origins) and trips attracted (destinations) to traffic zones and (2) to estimate travel patterns between zones. Separate models are developed for the three basic types of trips - internal, external, and through. Internal trips are defined as those trips which have both origin and destination inside the planning area. An external trip is a trip which has one end inside the planning area and the other end outside. Through trips are defined as those trips which have both origin and destination outside the study area.

The travel forecast models for Salisbury-Spencer-East Spencer and Granite Quarry were developed on the basis of travel, employment, and population data obtained for the base year 1981. The validity of the models to duplicate travel were tested by comparing the traffic volumes estimated by the models to the existing traffic volumes.

After travel forecast models have been calibrated such that they adequately duplicate travel, design year travel estimates are produced through the input of design year data on population and employment. The trip distribution models are sensitive to changes in the street system and some variation will occur in the estimated travel patterns as alternative future street plans are tested. A more detailed documentation of the travel forecast models is given in Appendix A.

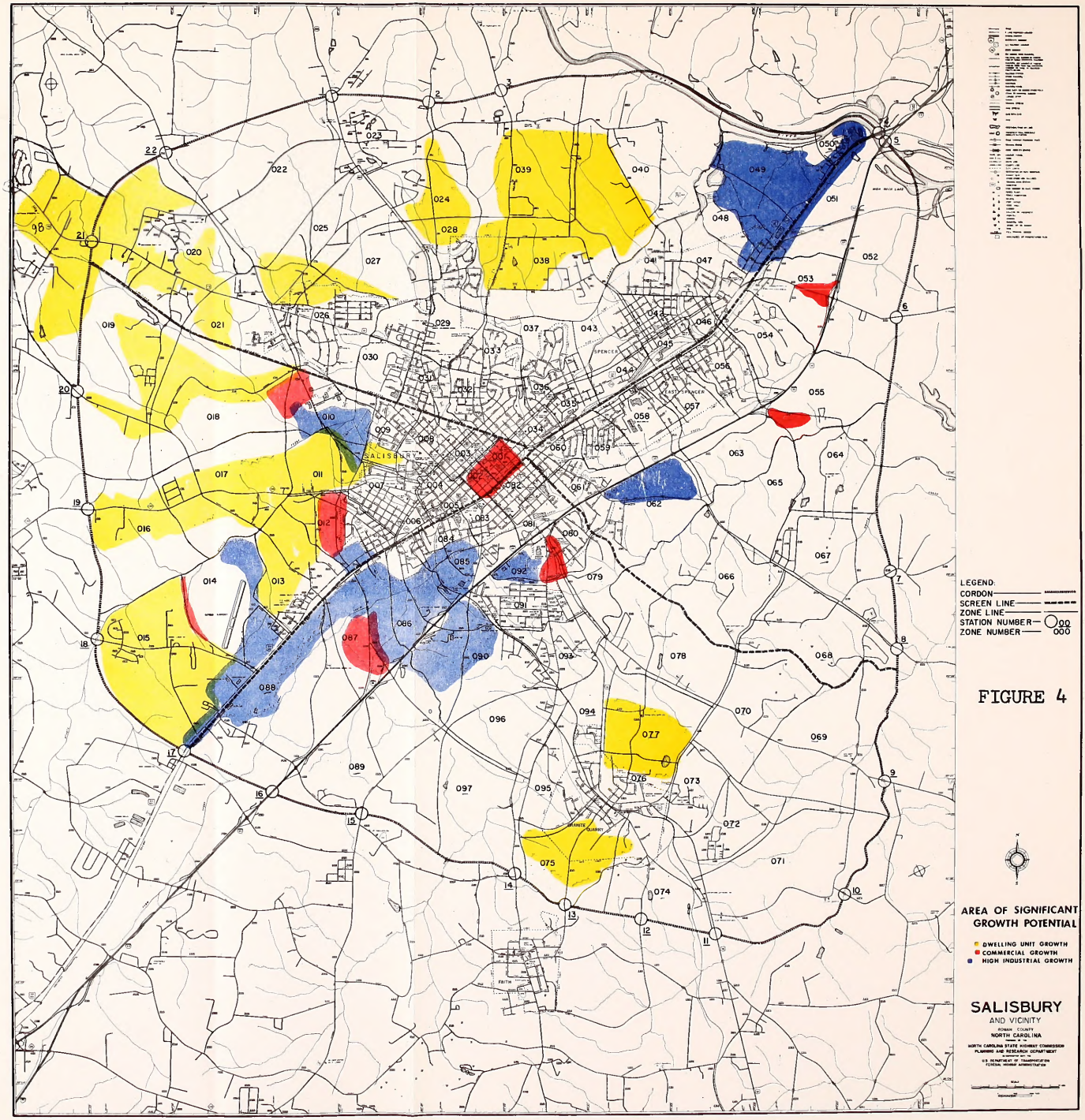

LEGEND:
CORDON
SCREEN LINE
ZONE LINE
STATION NUMBER 00
ZONE NUMBER 000
AREA OF SIGNIFICANT GROWTH POTENTIAL
DWELLING UNIT GROWTH
COMMERCIAL GROWTH
HIGH INDUSTRIAL GROWTH
SALISBURY
AND VICINITY
ROWAN COUNTY
NORTH CAROLINA
NORTH CAROLINA STATE HIGHWAY COMMISSION
PLANNING AND RESEARCH DEPARTMENT
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
SALISBURY
SPENCER
EAST SPENCER
GRANITE QUARRY
FAITH

FIGURE 4

A summary of travel data trends is given in Table 4.

Table 4

Travel Data Summary

	1971	1981	2005
Internal Daily Trips/DU	6.25	6.23	7.5
Internal Trips	80,379	100,216	213,417
Home Based Work	18,228	22,052	51,139
Other Home Based	43,916	53,100	123,181
Non-Home Based	18,228	25,064	39,097
External-Internal	45,713	66,663	115,534
Through	21,571	23,726	33,690
Total Daily Trips	147,663	190,605	368,641

IV. SALISBURY THOROUGHFARE PLAN DEVELOPMENT

Existing System

Salisbury, like many other cities in North Carolina was heavily influenced by the railroads in its early development. Most of the streets run parallel or perpendicular to the railroad which resulted in a system with few streets running directly North-South or East-West. In this respect Salisbury's CBD is similar to Charlotte with a railroad switching yard northeast of the CBD, an airport to the southwest and an interstate facility close enough for good access. Grade separation of the railroads with major streets in the downtown area helps to prevent congestion in the CBD. As you move out from the central area it is apparent that there is an adequate number and dispersion of radial thoroughfares although some may need widening. Although a fair radial system exists, very few circumferential roads are available and as a result much of the travel is indirect. I-85 provides a good east-west bypass for the area keeping through traffic out of the CBD, however no north-south bypass exists and five US and one NC highway are routed through the CBD. There is poor connectivity between Spencer and East Spencer and four roads running north out of Granite Quarry all funnel traffic into Innes Street with only one interchange providing direct access to Salisbury.

Despite all this, the single most prominent system deficiency is the lack of any complete circumferential system.

Development of the 1974 Thoroughfare Plan

The most important factors influencing the designation and location of major thoroughfares in the Salisbury Planning Area were as follows:

1. The travel demand
2. Existing and anticipated traffic generators
3. The location of existing neighborhoods, schools and cemeteries
4. The location and design of existing highways and streets
5. Topography
6. The tolerable level of congestion
7. That maximum use be made of existing streets and highways

The major problems that were identified were concerned with:

1. Existing and expected congestion on Innes Street

2. Providing another interchange on I-85 for additional access to Salisbury

3. Minimizing the effects of major street widening

The 1974 Thoroughfare Plan (as revised in 1979) shown in Figure 6 appears to function satisfactorily under 2005 conditions and only needs expansions in a few fast growth areas along with a few minor alterations.

The following is a list of existing or planned thoroughfare systems and their function:

MAJOR THOROUGHFARES

Radial System

1. Airport Road (SR 1516) - SR 1516 provides access to residential areas east of the airport and industries south of the airport.

2. Andrew Street (SR 1915) - From Outer Loop to US 29-70 - SR 1915 serves as a link from the proposed Outer Loop to US 29-70 in Spencer.

3. Bringle Ferry Rd. (SR 1002) - Bringle Ferry Rd. provides service and access to areas east to southeast of the CBD.

4. Coley Road (SR 2316) - Serves areas south of Granite Quarry

5. Concord Rd. (SR 1002) - Concord Rd. is a radial thoroughfare serving areas south and southwest of the CBD.

6. Faith Rd. - Faith Rd. provides a direct route to and from the Town of Faith.

7. Main Street in Granite Quarry (SR 2300) - Serves as an alternate route for US 52 traffic between Granite Quarry and Salisbury.

8. NC 150 - NC 150 serves areas of the northeast and west of Salisbury as a direct route to the CBD and a radial thoroughfare to the crosstown system. It leads to Mooresville to the west and I-85 to the east.

9. Old Mocksville Rd.-Mocksville Ave. - SR 1910, provide radial access to the CBD from areas north of the CBD.

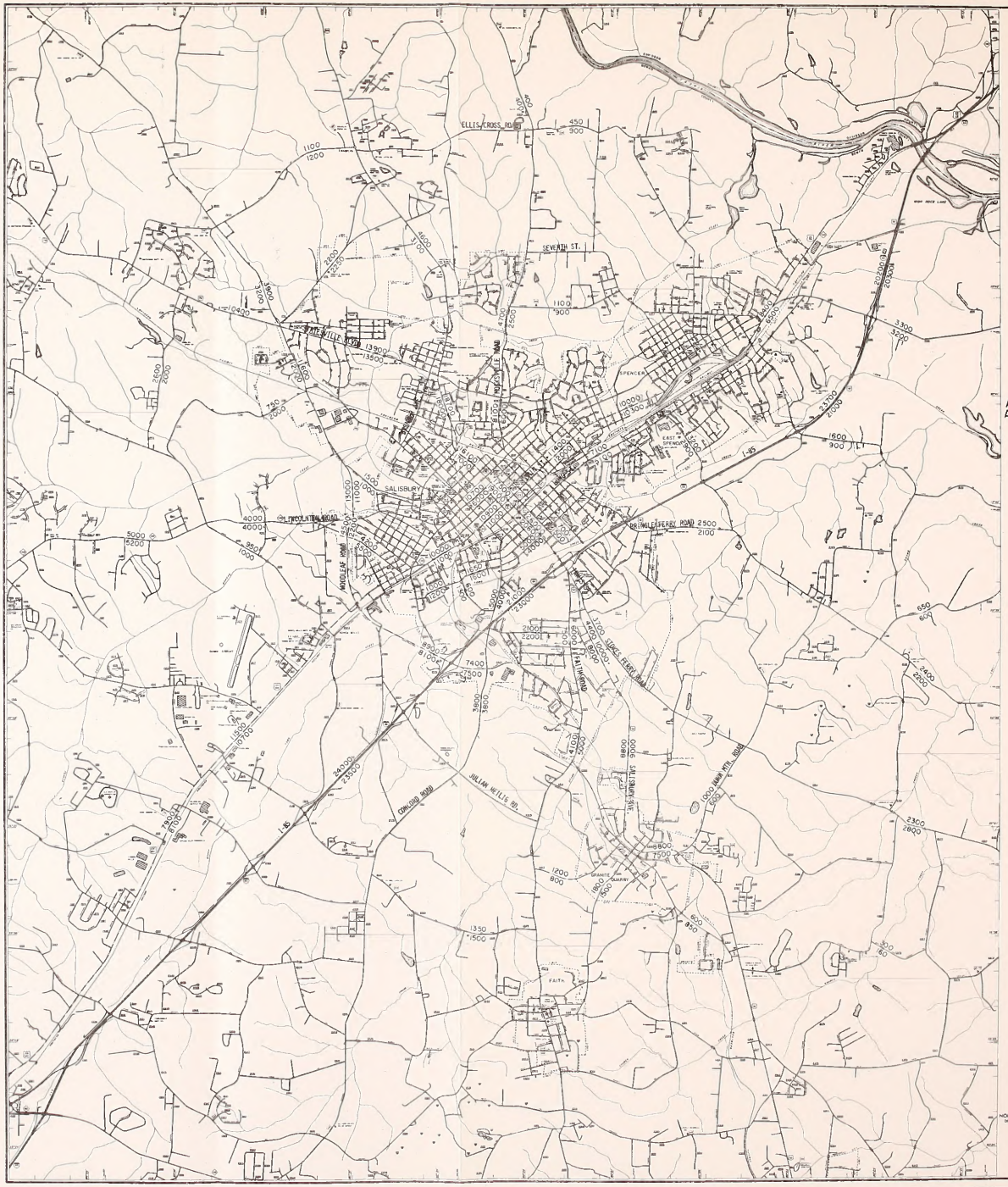
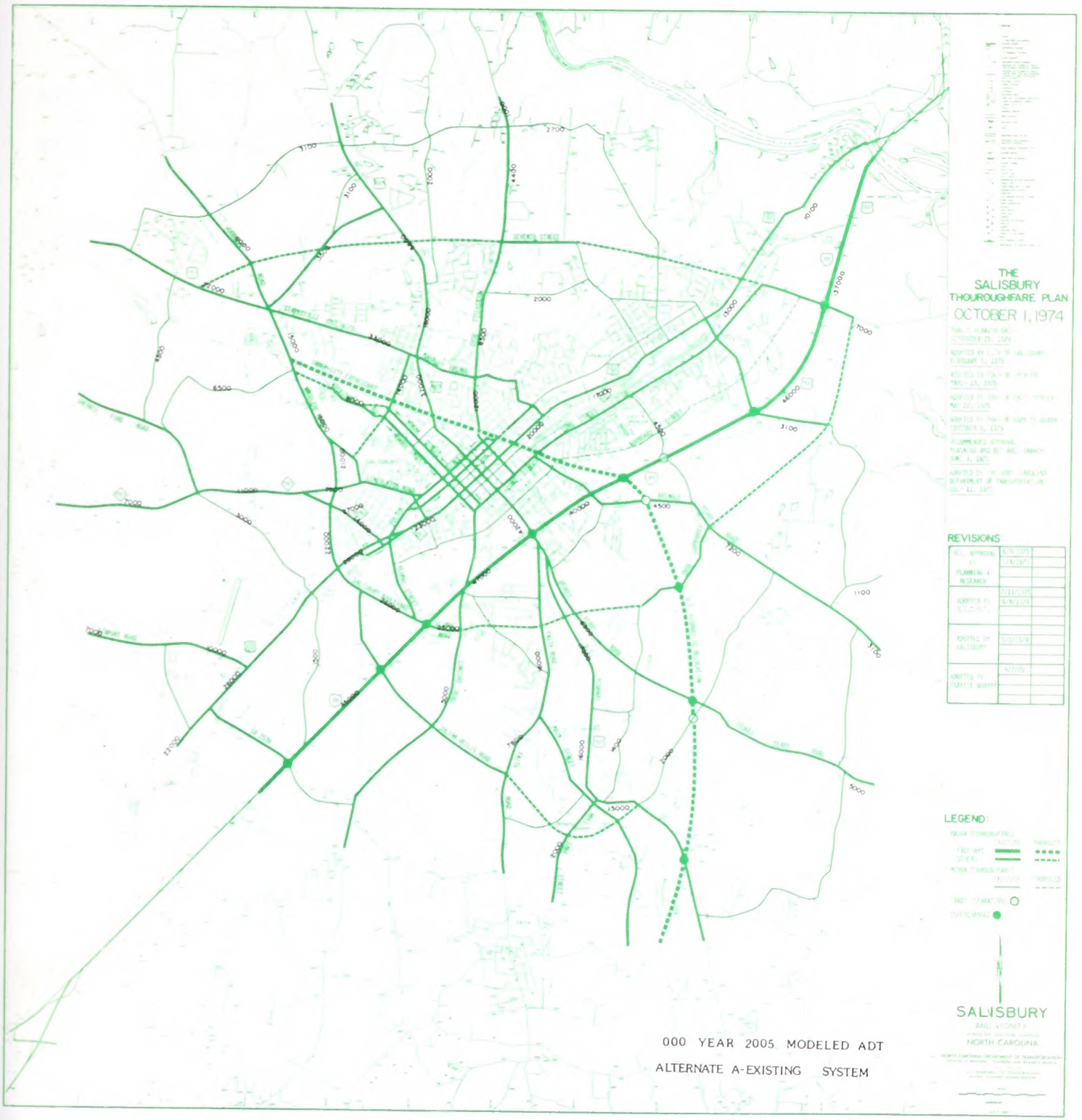

ELLIS CROSS RD
SEVENTH ST.
JULIAN WELLIS RD
SALISBURY
I-85
I-85
I-85

FIGURE 6


THE
SALISBURY
THOUROUGHFARE PLAN
OCTOBER 1, 1974
REVISIONS
LEGEND
SALISBURY
AND VICINITY
NORTH CAROLINA
000 YEAR 2005 MODELED ADT
ALTERNATE A-EXISTING SYSTEM

A new bridge is proposed over the railroad tracks to Kerr Street.

10. Stokes Ferry Rd. (SR 1004) - Stokes Ferry Rd. is a route serving areas southeast of the CBD with access to the CBD by way of Innes St.

11. Salisbury Ave.-Innes St. - US 52, provide direct access to downtown Salisbury from towns southeast of the CBD, such as Granite Quarry and Rockwell. US 52 is the only US facility serving areas south and southeast of the CBD.

12. SR 2539 - SR 2539 connects I-85 and the industrial area that is south of the Rowan Airport.

13. US 52 Relocation - The proposed relocation of US 52 is designed to bypass Granite Quarry and to remove the traffic load entering Salisbury from the south by providing access to the CBD from the east.

14. West Bank Street in Granite Quarry (SR 2314) - Serves as the shortest route linking Faith and Granite Quarry.

15. Woodleaf Rd. - SR 1702 serve as a western bypass of the CBD of Salisbury. The new segment of Woodleaf Rd. will tie areas northwest of Salisbury to south Salisbury.

Crosstown System

1. Brenner Ave. - The proposed extension of Brenner Ave. to SR 1702 will allow for efficient movement of traffic between northern and western Salisbury. It will make travel more direct in northwest Salisbury.

2. Fulton St.-Jackson St. One Way-Pair - These streets are proposed to function as a one-way pair between Kerr Street and Elm Street. This proposal would eliminate the need for widening these streets in the future.

3. Harrison St. - Harrison Street serves as a connector between Lincolnton Road and Main Street.

4. Innes St. - Innes St. extends crosstown from existing US 52 to US 601, north of Salisbury. Innes Street serves as the only direct access to the downtown area from I-85.

5. Inner City Expressway - The expressway proposed from I-85 to Woodleaf Rd. will create an additional interchange with I-85 and will relieve existing crosstown facilities especially Innes Street.

6. Kerr St./Park Ave. - From Boundary Street to Fulton Street - Kerr Street provides efficient travel within the CBD.

7. Long St. - Long St., running parallel to the railroad tracks and I-85, is a direct route to East Spencer.

8. Main St. (US 29) - Main St. functions as a direct route through Town that leads directly to Salisbury Ave. in the town of Spencer.

9. Main St.-Railroad St. One-Way Pair - These streets are proposed to function as a one-way pair between "D" Street and the existing intersection of Railroad and Main Streets to allow efficient travel within the southwestern CBD.

10. Mahaley Ave.-Club House Dr. - Mahaley Ave. and Club House Dr. cross the northern section of Salisbury, providing continuous service between eastern and western Salisbury.

11. Monroe St.-Horah St. One-Way Pair - One-way pairing of these streets is proposed from Old Wilkesboro Road to Long Street. This proposal would eliminate the need for widening these streets in the future.

12. Statesville Boulevard (US 70) - Statesville Boulevard provides access to the northern sections of Salisbury.

Loop System

1. Earnhardt Road (SR 2126) - From Klumac Extension to SR 1002 - the existing SR 2126 allows access to the proposed US 52 and extends the loop to Bringle Ferry Road.

2. Julian Rd.-Helig Rd. (SR 2528) - Provides linkage between areas southwest of Salisbury and the proposed southern loop around Granite Quarry.

3. Klumac Road and Klumac Road Extension - Serves industry south of I-85 and completes the Southern Loop for southern Salisbury.

4. Long Ferry Road (SR 2120) - Connects the Outer Loop to I-85 and areas east of I-85.

5. Outer Loop (Long Ferry Road to US 70) - Will supply the only complete loop system north of Salisbury and will greatly increase travel efficiency and safety in that area.

MINOR THROUGHFARES

1. Boundary Street and Boundary Street Extension - Serves as a collector street to reduce the traffic on major thoroughfares such as Long Street and connects the southside of Salisbury to East Spencer.

2. Byrd Road-Peeler Street (SR 2113) - Serves as a connector route between Central Granite Quarry and Faith Road.

3. Cedar Springs Road (SR 1560) - Serves as a connector between the major thoroughfares of SR 1516 and US 29-601.

4. Council Street (From Long Street to Fulton Street) - Council Street, which runs parallel to Fisher Street, serves the Salisbury CBD.

5. Dunns Mountain Road (SR 2151) - Extends from SR 1002 (Bringle Ferry Road) to Railroad Street in the town of Granite Quarry.

6. Earnhardt Road (SR 2126) - The segment of SR 2126 between the proposed outer loop and the existing US 52 services the area between the existing and proposed US 52 and south of the proposed Outer Loop.

7. Fisher Street (From Long Street to Fulton Street) - Fisher Street provides direct access to areas in central Salisbury.

8. Gold Hill Drive - Gold Hill Drive connects Concord Road and Faith Road, providing service to the area south of the Salisbury city limit.

9. Harrison Road (SR 1710) - connects SR 1526 to SR 1702 (Woodleaf Road) and will lead to Old Wilkesboro Road when the Old Wilkesboro Road Extension is completed.

10. Honeycutt Road (SR 1922) - Serves the area north of SR 1921 and south of the Yadkin River.

11. Jackson St.-Rowan Ave. - Jackson Street and Rowan Avenue serve as a minor route between downtown Salisbury and downtown Spencer.

12. Leonard Road (SR 2168-SR 1915) - Connects SR 1915 to Bringle Ferry Road (SR 1002) and provides service to and from communities east of SR 1915. It serves areas east of Spencer and outside the proposed Outer Loop.

13. Morlan Park Road (SR 1516) - Running adjacent to the Northwestern Railway, services the development that is south of the Salisbury City Limit.

14. Newsome Road - Newsome Road connects the major thoroughfares of Innes Street and Bringle Ferry Road and provides service to the area within the Salisbury city limit that is directly southeast of I-85 and northeast of the existing US 52.

15. Old Stone House Road (SR 2308) - Provides service between the inner city of Granite Quarry and areas northeast of the Granite Quarry city limits.

16. Peach Orchard Road-Henderson Grove Church Road-Briarwood Avenue-Rowan Mill Road (SR 1526) - Provides a route between areas south of the Salisbury CBD and areas west of the Salisbury CBD in addition to allowing access to the development east of the Rowan Airport.

17. Ryan Street (From Boundary Street to Main Street) - Ryan Street will cross the Norfolk and Southern Railways, tying south Salisbury to central Salisbury.

18. Sells Road (SR 1911) - Begins and ends on US 601, servicing the area between SR 1910 and US 601.

19. Seventh St. (SR 1912-SR 1914) (Spencer) - Seventh Street in Spencer allows crosstown travel through West Spencer.

20. St. Luke's Church Road (SR 2380) - Connects SR 1004 (Stokes Ferry Rd.) to the existing US 52 and provides access to East Rowan High School.

21. SR 1712 - SR 1712 is the 601 Bypass from US 601 Business to US 70.

22. SR 2114 - SR 2114 connects the major thoroughfares of Long Street (in East Spencer) and Bringle Ferry Road.

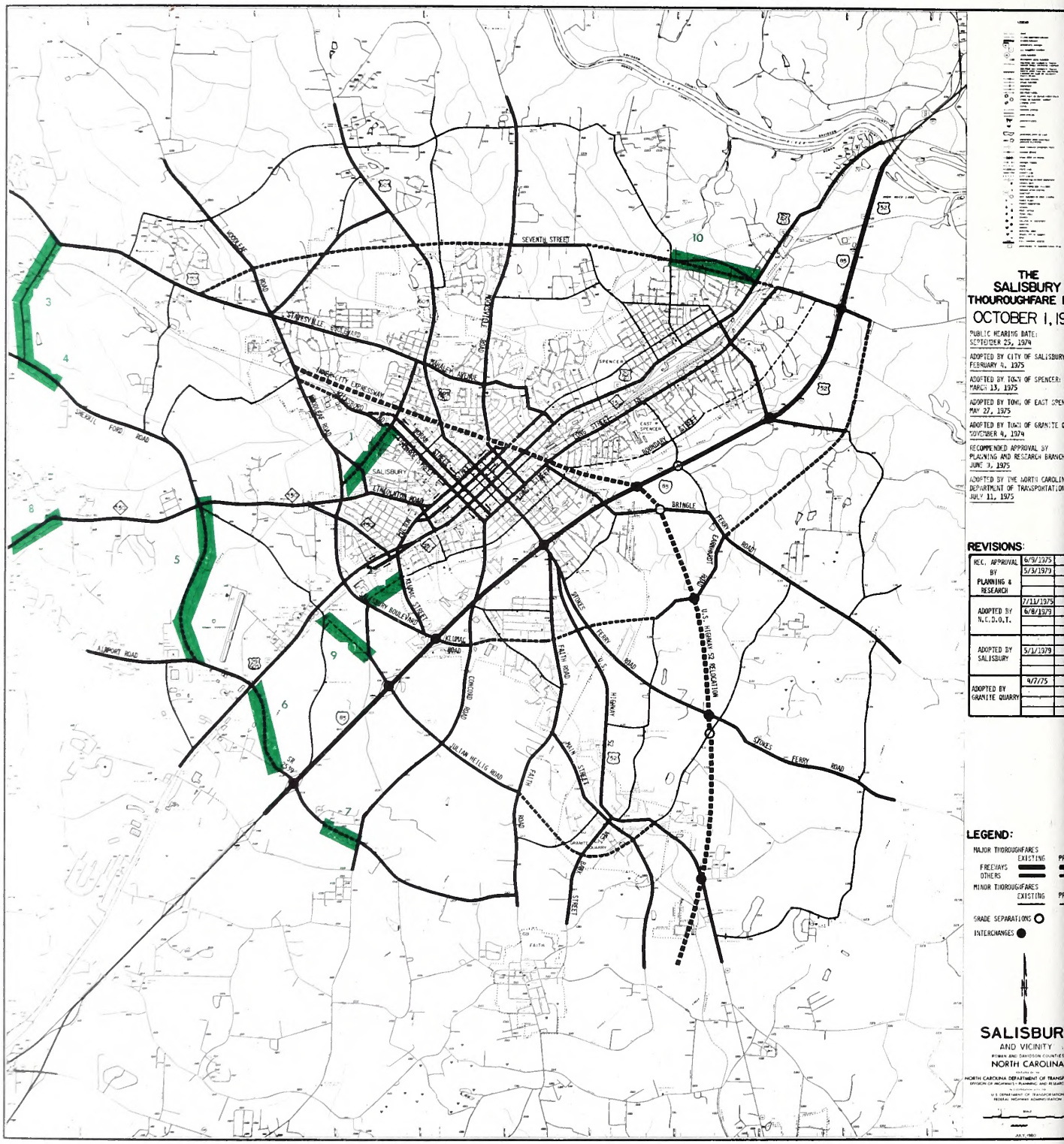
23. SR 2379 - SR 2379 serves as a connector route between SR 2377 and SR 2380.

24. Third Street (Spencer) - From SR 1915 to Salisbury Avenue - Third Street (Spencer) serves the CBD of Spencer that is north of the railroad tracks.

25. Union Church Road (SR 2132 & 1944) - Serves as a connector between SR 1002 (Bringle Ferry Road) and SR 1004 (Stokes Ferry Road) and connects US 601, Woodleaf Road and US 70.

26. White Farm Road (SR 1941) - Connects the major thoroughfares of US 601 and SR 1712, intersecting US 601 at Rowan Memorial Park.

FIGURE


SEVENTH STREET
JAKE ALEXANDER BLVD
STATESVILLE BOULEVARD
LONG CITY EXPRESSWAY
MAHLE ROAD
OLD WILKESBORO ROAD
SALISBURY
TRANSITION ROAD
BRINGLE FERRY ROAD
STOKES FERRY ROAD
U.S. HIGHWAY 52 RELOCATION
JULIAN HELLIG ROAD
FAITH ROAD
KLUTTZ ROAD
AIRPORT ROAD
CHURCH STREET
MAIN STREET
EAST SPENCER
SPENCER
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THE SALISBURY THOUROUGHFARE
OCTOBER 1, 19
PUBLIC HEARING DATE: SEPTEMBER 25, 1974
ADOPTED BY CITY OF SALISBURY FEBRUARY 4, 1975
ADOPTED BY TOWN OF SPENCER: MARCH 13, 1975
ADOPTED BY TOWN OF EAST SPEN MAY 27, 1975
ADOPTED BY TOWN OF GRANITE NOVEMBER 4, 1974
RECOMMENDED APPROVAL BY PLANNING AND RESEARCH BRANCH JUNE 3, 1975
ADOPTED BY THE NORTH CAROLIN DEPARTMENT OF TRANSPORTATION JULY 11, 1975
REVISIONS:
REC. APPROVAL BY PLANNING & RESEARCH 6/9/1975
5/3/1979
ADOPTED BY N.C.D.O.T. 7/11/1975
6/8/1979
ADOPTED BY SALISBURY 5/1/1979
ADOPTED BY GRANITE QUARRY 9/7/75
LEGEND:
MAJOR THOROUGHFARES EXISTING
FREEWAYS
OTHERS
MINOR THOROUGHFARES EXISTING
GRADE SEPARATIONS
INTERCHANGES
SALISBUR
AND VICINITY
ROWAN AND DAVIDSON COUNTIES
NORTH CAROLINA

Recommended Revisions to the Existing Thoroughfare Plan

Evaluation of the Existing Thoroughfare Plan indicated that the same concepts will work well under updated 2005 conditions. Development since 1974 has necessitated some minor revisions and growth to the west has emphasized the need for thoroughfare designation in that area. Therefore the following revisions are recommended (See Figure 7):

1. Slight realignment of the Brenner Avenue Extension and continuation over to Woodleaf Road
2. Extension of Walnut Street to Salisbury Boulevard
3. Include Hanley School Road (SR 1724) as a minor thoroughfare
4. Continue Sherrill Ford Road (SR 1526) as a major thoroughfare out to SR 1724
5. Extend Sherrill Ford Road (SR 1526) to Airport Road (SR 1516)
6. Extend Airport Road to Peach Orchard Road (SR 2539)
7. Extend St. Paul Church Road to Peach Orchard Road (SR 2539) and designate the entire system as a major thoroughfare.
8. Continue NC 150 as a major thoroughfare out to Millers Chapel Road (SR 1514)
9. Connect Henderson Grove Church Road with Julian Heilig Road
10. Realign Outer Loop Slightly

V. TRAVEL EFFICIENCY AND SAFETY

Capacity Deficiency Analysis

An efficient transportation system requires direct routing and uncongested flow. The lack of direct routing can increase the vehicle hours of travel thus extending peak hour congestion and increasing driving costs. On the other hand slow moving traffic might cause indirect routing of trips by those who are willing to drive out of their way to avoid traffic congestion. In an urban area, a street's ability to move traffic is also controlled by such things as intersection spacing, street width, and traffic signal placement and settings.

Major street widening for Salisbury that is recommended by 2005 is shown in Figure 8. Other minor widening to accommodate turn lanes or to allow a standard cross section for safety reasons is shown in Appendix B.

Traffic Accidents

Traffic accident data analysis is influencial in highway system improvement decisions. A continual struggle exists between acceptable levels of traffic movement and permissible accident rates. While no accidents are desired, a certain number are apparently unavoidable if satisfactory transport of goods and people is to continue.

As part of the Salisbury Thoroughfare Plan reevaluation, accident data from January 1980 through December 1982 was analyzed. Table 5 is a summary of intersections in the planning area where eleven or more accidents occurred during that period.

The severity index formula is used to equate accidents with different levels of severity or injuries. Each accident is classified according to its highest level of injury and is given a weighted value. These values are averaged for the severity index.

During the three year period from January 1980 to December 1982, a total of 978 accidents occurred in Salisbury, 17 in Granite Quarry, and 5 in Spencer. No intersections with 5 or more accidents were reported in East Spencer. Of the 1000 accidents in the area, there were four fatalities.

Innes Street is an accident prone road with a total of 445 accidents in the three year period. The locations with the highest accident frequency are on Innes Street at the intersections with Main, Long, Merritt, Church and Ellis Streets. The majority of these accidents occured while backing or turning.

TABLE 5

High Accident Locations

LOCATION	#ACC	DOMINANT TYPE	SEVERITY INDEX
Innes at Main	45	11 rear end-turn; 13 backing	8.22
Innes at Long	33	15 backing; 7 rear-end turn	13.05
Innes at Merritt	31	10 left-turn; 8 backing	6.84
Church at Innes	27	9 backing; 7 parked vehicles; 4 angle	3.68
Ellis at Innes	27	17 backing	16.96
Fisher at Main	24	11 Parked vehicle; 5 backing	5.89
Boundary at Innes	22		7.98
Craige at Innes	22	5 backing; 4 rear-end; 4 head on	15.35
Faith at Innes	21	10 rear and turn; 6 backing; 5 left turn	7.45
Innes at Lee	21		5.72
Boundary at Old Concord	19	14 backing	20.93
Fulton at Innes	19		15.71
I-85 at Innes	18		9.01
Horah at Long	17	10 backing	11.09
Brenner at Statesville	16	5 left turn; 5 rear end-turn	7.79
Horah at Main	16	4 left turn, 6 rear end turn	6.07
Eleventh at Main	15	5 left-turn; 4 backing	8.24
Innes at Institute	15		8.82
Kerr at Main	15	6 left turn; 6 backing	14.23
Avalon at Innes	13	5 left turn	5.18
Fulton at Horah	13	9 backing	15.59
Main at Monroe	13	5 left turn	3.78
Liberty at Main	12		7.76
I-85 at Salisbury	11		2.65
Arlington at Innes	11		11.66
Ellis at Horah	11	6 backing	15.75
Innes at Overman	11		13.31
Innes at Shaver	11		7.58
Innes at Green	11	6 rear-end-turn	9.23
Long at Park	11		5.94
Main at Henderson	11	4 Rt. turn	10.02

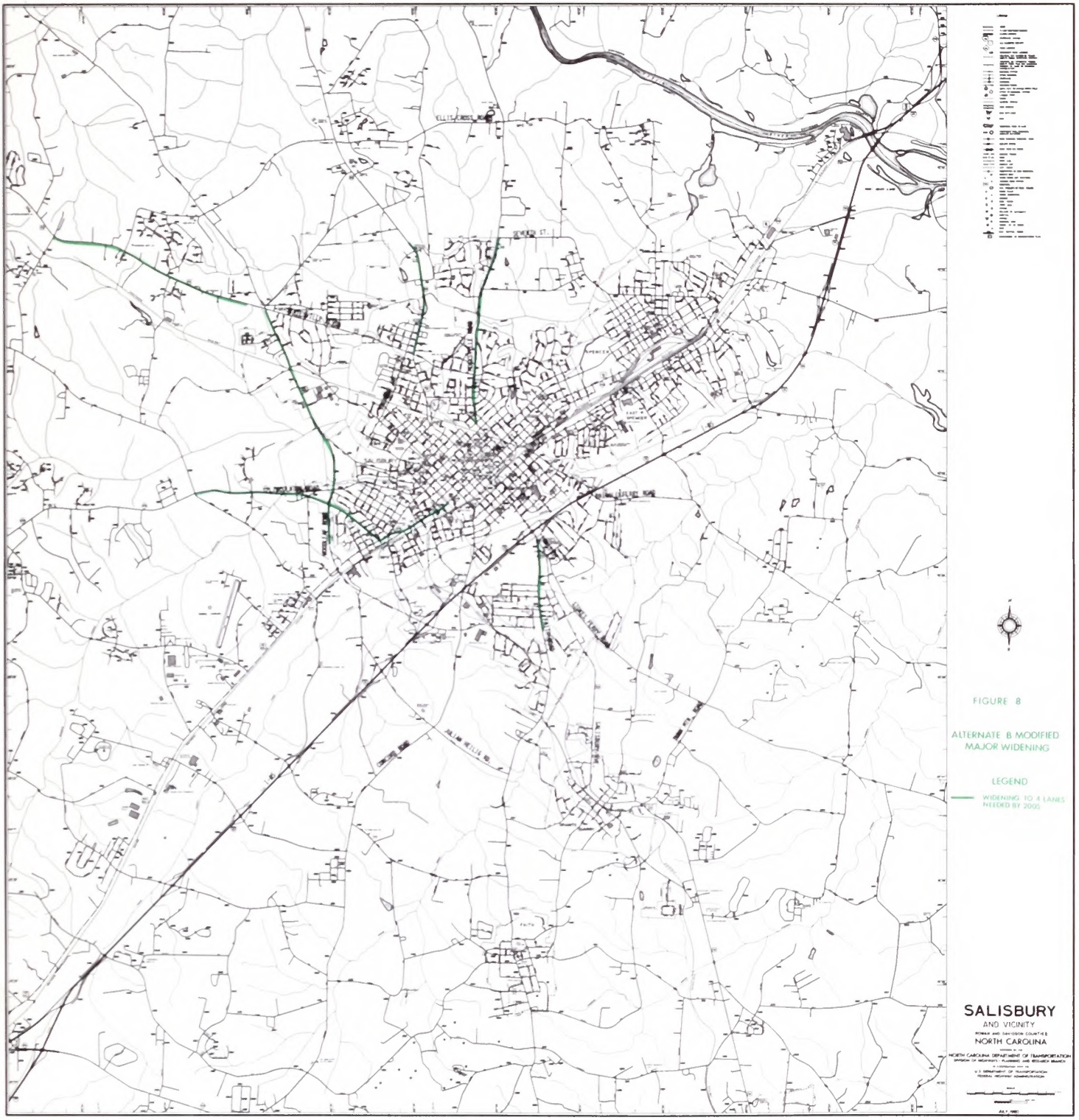

FIGURE 8

ALTERNATE B MODIFIED
MAJOR WIDENING

LEGEND

WIDENING TO 4 LANES
NEEDED BY 2005

SALISBURY

AND VICINITY

ROWAN AND DAVIDSON COUNTIES

NORTH CAROLINA

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS, PLANNING AND RESEARCH BRANCH

A COOPERATIVE EFFORT OF THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

JULY 1980

Train Traffic

An investigation of accident rates at railroad crossings showed that no severe safety problems exist. The highest accident rate (0.27/year) occurs at the intersection of Main Street and Southern Railway. Other locations that have a record of accidents are listed below:

	Location	Accidents/year
1.	Main St. @ Southern Railway	0.27
2.	Old Wilkesboro @ Southern Railway	0.22
3.	Mildred Street @ Southern Railway	0.20
4.	E. Kerr Street @ Southern Railway	0.20
5.	"D" Avenue @ Southern Railway	0.10
6.	"C" Avenue @ Southern Railway	0.10
7.	Crawford Street @ Southern Railway	0.10
8.	Henderson Street @ Southern Railway	0.10
9.	Hackett Street @ Southern Railway	0.10
10.	Hopkins Street @ Southern Railway	0.10
11.	Lee Street @ Southern Railway	0.10

Train speeds vary from 10 to 60 MPH with an average speed of 34.8 MPH and an average length of 75 cars. This yields an average delay time of 88 seconds with delays ranging from 50 seconds on Julian Road to 3 minutes and 25 seconds on Hopkins Street. One of the higher vehicle dalays occurs on Klumac Street where eight vehicles wait an average of one minute twelve times per day. Over the fifty year life of a grade separation this could amount to a savings of $520,000 in time and vehicle cost savings. This would be approximately equal to the cost of construction.

From the results of this analysis no additional grade separations appear to be justifiable from a safety or user benefit standpoint, however the grade separation on Ellis Street is obsolete and should be replaced by an extension of Mocksville Avenue to Kerr Street as recommended in the Existing Thoroughfare Plan. This would make travel more direct and efficient for local traffic in the area.

VI. GOALS AND OBJECTIVES

A goals and objectives survey was performed in Salisbury in 1983 to establish areas of importance. Thirty-five people were sampled from a cross section of various interest groups. The results of this survey are shown on Table 6. Traffic safety stands out as a very important item in the survey and strip development is considered to be least important among the items considered. This is consistent with responses made in the 1971 Survey. Access to the CBD, industry and shopping centers stands out as a major concern while alternate modes of travel, one way streets and on street parking appear to be less important.

TABLE 6

1983 Goals and Objectives Survey

	Importance Rating
Traffic Safety	114
Land Use Zoning	97
Sidewalks	96
Neighborhoods	95
Access to CBD	94
Special Truck Routes	94
Limited Commercial Signs	93
Access to Industry and Shopping Centers	91
Improve Railroad Crossings	91
Parks and Playgrounds	90
Restrict Access on Major Thoroughfares	89
Trees and Shrubs Along Streets	88
Improve Intersection Traffic Flow	87
Transportation Construction Cost	87
School Travel	86
Home to Work Travel	85
Improve Transportation to Attract Industry	85
Preservation of Historic Buildings	84
Attractive Roads and Bridges	83
City Control of Land Subdivision	81
Urban Renewal	79
Road Noise	79
Travel Time	78
Bus Transit	78
Vehicle Air Pollution	76
Off Street Truck Loading	74
Scenic Travel	68
Bicycle Routes	68
Cost of Travel	62
Taxi Service	53
One Way Strees	43
Parking on Heavily Traveled Streets	34
Strip Development on Major Thoroughfares	29

VII. CONSTRUCTION PRIORITIES

An evaluation of the North Carolina highway program from administrative, historical, and financial perspectives indicates the following objectives are of greatest importance:

To improve the North Carolina arterial system to reduce travel costs and improve travel service between urban centers.

To improve the level of service and safety of all roads and highways on the State system in a cost effective manner.

To encourage economic development.

To preserve the natural and human environment.

To allocate funds to projects in a fair and equitable way.

(1) User benefits, (2) cost, (3) probability that a project will stimulate economic development, (4) quantification of environmental impacts, and (5) relationship of a project to the State arterial system provide a basis for evaluating projects as to how well they meet the objectives.

User benefits include cost savings resulting from an improvement project through reduction in vehicle operating costs, travel time costs, and accident costs. The estimated through travel served by a project provides a measure of the importance of a project to the State arterial system. Heavier volumes of through traffic are generally found on the more important facilities.

Estimation of environmental impacts of a project is one of the more difficult evaluations. Environmental factors usually considered in highway project evaluation can be divided into three major categories-physical, social and/or cultural, and economic environmental considerations (Table 7). Many of these are accounted for when a project is evaluated with respect to user benefits, cost, and economic development potential. However, thirteen environmental factors are generally not considered in these evaluations. They are the environmental impacts of a project on (1) air quality (2) water resources, (3) soils and geology, (4) wildlife, (5) vegetation (6) neighborhoods, (7) noise, (8) educational facilities, (9) churches, (10) park and recreational facilities, (11) historic sites and landmarks (12) public health and safety, and (13) aesthetics. The summation of both positive and negative impact probabilities with respect to these factors provides a measure of the relative environmental impact of a project.

Table 7

Environmental Considerations		
Physical Environment	Social and/or Cultural Environment	Economic Environment
Air quality	Housing	Businesses
Water resources	Neighborhoods	Employment
Soils and geology	Noise	Economic development
Wildlife	Education facilities	Public utilities
Vegetation	Churches	Transportation costs
	Park and recreational facilities	Capital costs
	Public health and safety	Operation and maintenance costs
	National defense	
	Aesthetics	

Thoroughfare improvement needs identified in the Salisbury thoroughfare plan and evaluated are:

- Brenner Avenue Extension
- Inner City Expressway
- US 52 Relocation
- Klumac Road Extension
- Main Street-Railroad Street one way pair
- Fulton-Jackson Street one way pair
- Mocksville Avenue-Kerr Street Connector
- Monroe-Horah one way pair
- Ryan Street Extension
- Walnut Street Extension
- Jackson Street Underpass

The evaluation of the eleven Salisbury projects with respect to user benefits, estimated cost, probability that economic development will be stimulated, environmental impact, and through travel served is given in Table 8.

Traffic estimates for 1981 and 2005 required for user benefits estimation and estimation of through travel on facilities were developed as discussed in Appendix A. All estimated user benefits and costs are in 1981 dollars.

Considering the benefits evaluation of projects and transportation problems identified in this and prior studies, the following order of benefit/cost desirability is recommended:

1. Brenner Avenue Extension - This project will complete a much needed loop facility northwest of the CBD.
   Estimated cost $ 430,000

2. Inner City Expressway - This is an important project giving better access to the CBD and providing another interchange on I-85. It should be built in three phases and in the following order:

I-85 to Main Street	$13,600,000
Main St. to Brenner Ave.	5,800,000
Brenner Ave. to Woodleaf Rd.	2,000,000
Total Estimated Cost	$21,400,000

3. US 52 Relocation - The US 52 relocation will also relieve Innes Street and its interchange with I-85. It will make travel more direct and less accident prone.
   Estimated Cost $30,200,000

4. Klumac Road Extension - This project will complete a much needed loop system from 1000 feet east of Concord Road to existing Stokes Ferry Rod.
   Estimated Cost $ 1,900,000

5. Mocksville Avenue-Kerr Street Connector - Construction of this project is needed to replace an obsolete facility and make travel more direct for local traffic.
   Estimated Cost $ 800,000

6. Main Street-Railroad Street One Way Pair - This project will ease congestion and accidents while causing relatively little construction disruption.
   Estimated Cost $ 980,000

7. Ryan Street Extension - This will add system continuity and make travel between NC 150 and Concord Road more efficient.
   Estimated Cost $ 150,000

8. Walnut Street Extension - This project will give areas just north of I-85 better access to Salisbury Blvd. and Julian Road thus keeping some local traffic off I-85 and South Main Street.
   Estimated Cost $ 560,000

9. Jackson Street Underpass - This will allow better access to the Inner City Expressway from the northern CBD.
   Estimated Cost $ 700,000

10. Fulton-Jackson One Way Pair - This will greatly increase the capacity of these streets and decrease their accident potential.

Estimated Cost $ 200,000

11. Monroe-Horah One Way Pair - Less congestion and accident potential will result from this project.

Estimated Cost $ 350,000

The establishment of priorities will be the responsibility of the City of Salisbury based on the recommendations of this report and other concerns.

Table 8

Benefits Evaluation					
Project Description	User Benefits $1000[a]	Cost $1000[b]	Economic Development Potential Probability[c]	Environmental Impact Probability	Design Year Through Traffic ADT
Brenner Avenue Extension to Woodleaf Rd.	5,787	R 30 C 400	.50	+1.00[d] -0.10[e]	100
Inner City Expressway					
I-85 to Main Street	55,226	R 3,000 C10,600	.15	+1.00 -0.10	1,400
Main Street to Brenner Ave.	39,237	R 2,000 C 3,800	.15	+1.00 -0.10	1,400
Brenner Ave. to Woodleaf Rd.	13,428	R 7,000 C 1,000	.15	+1.00 -0.10	1,400
US 52 Relocation	91,959	R 2,840 C27,400	.30	+0.90 -0.30	1,000
Klumac Road Extension	41,199	R 440 C 1,500	.50 .50	+0.80 -0.20	100
Main-Railroad St. One Way	5,371	R 540 C 440	-	+0.60 -0.10	-
Fulton-Jackson One Way	25,181	R 100 C 100	-	+0.60 -0.60	-
Monroe-Horah One Way	5,665	R 200 C 150	- -	+0.60 -0.60	-
Ryan Street Extension	1,359	R 50 C 100	.30	+0.50 -0.20	-
Walnut Street Extension	1,126	R 200 C 360	.20	+0.50. -0.10	-
Jackson Street Underpass	806	R 100 C 600	-	+0.40 -0.20	-
Mocksville Ave.-Kerr St. Connector	5,760	R 100 C 600	-	+0.80 -0.10	100

[a] Summation of estimated operating, user time, and accident cost savings, 1981-2001
[b] R-Estimated right-of-way cost, C-Estimated construction cost, 1981 Dollars
[c] Estimated probability project will stimulate economic development
[d] Probability project will have a positive environmental impact
[e] Probability project will have a negative environmental impact

VIII. IMPLEMENTATION

One of the key functions of a thoroughfare plan is the guidance it provides the policy and governing boards in formulating and developing their highway system. This stage of planning is generally referred to as implementation and it can be separated into two categories; short range or capital improvements program and a long range program. The capital improvements program is the outline by which highway improvements are selected or staged into construction. Because highway improvement funds generally lag needs, there is little margin for error or little difficulty in developing a capital improvements program. The long range program is more conceptual and difficult to develop. However, the thoroughfare plan offers valuable insights into long range implementation by providing local officials with a forecast of future traffic problems; and, upon adoption by all parties involved, it provides the local officials the legal authority to protect future highway corridors through subdivision regulations and future street line ordinances.

Spiralling construction and right of way costs coupled with inflation and a leveling off of highway improvement revenues are causing serious problems in funding highway construction programs throughout North Carolina. With this in mind, policy and governing boards should take a closer look at their local policies and attitudes toward implementing long range projects to see if they are utilizing to the utmost extent the legislative powers granted them by the North Carolina General Statutes. If present funding deficit trends continue, only by utilizing all the resources available will a municipality be able to afford its citizens a safe and efficient transportation system.

It is the intent of this chapter to briefly discuss current enabling legislation available to local governing boards toward implementing transportation systems in hope that they will be stimulated into both utilizing existing powers and working toward developing additional powers.

State-Municipal Adoption of the Thoroughfare Plan

Chapter 136, Article 3A, Section 136-66.2 of the General Statutes of North Carolina provides that after development of a thoroughfare plan, the plan may be adopted by the governing body of the municipality and the Board of Transportation as the basis for future street and highway improvements. If mutually adopted, negotiations will begin to determine which of the existing and proposed thoroughfares will be a Department of Transportation responsibility and which will be a municipal responsibility. Facilities which are designated as State responsibility will be constructed and maintained

by the Division of Highways; however, the municipality will share in the right of way costs, with the municipality's share of cost to be determined at the time of construction.

After adoption of the thoroughfare plan, a municipality has the legal authority provided by the General Statutes of North Carolina to protect existing and proposed highway corridors through subdivision regulations and future street line ordinances. On highway projects that are designated as State responsibility, the municipality's share of the right of way cost is partially determined by the extent that the municipality has protected the proposed corridor. This has long range implications to a municipality's budget in that right of way cost on unprotected corridors often greatly exceed construction cost.

The adoption of the existing Thoroughfare Plan was made on the following dates:

	Original Adoption	Revisions Adopted
Town of Granite Quarry	Nov. 4, 1974	Apr. 7, 1975
Town of East Spencer	May 27, 1975	
Town of Spencer	Mar. 13, 1975	
City of Salisbury	Feb. 4, 1975	May 1, 1979
N.C. Board of Transportation	July 11, 1975	June 8, 1979

Following review of the recommended revisions from this study a mutual adoption is encouraged.

Capital Improvement Program

One of the tools which makes it easier to build a planned thoroughfare system is a capital improvement program. This capital improvement program is composed of two lists of projects: (1) a list of highway projects that are designated a municipal responsibility and are to be implemented with municipal funds; and (2) a list of local projects designated as State responsibility to be submitted to the Department of Transportation as recommendations for inclusion in the "North Carolina Transportation Improvement Program".

The priority groupings in this report should provide a basis to the Salisbury Area for developing a capital improvement program. To supplement this program, the Salisbury Area is encouraged to estimate their existing and projected revenues available for transportation plan implementation. A review of the needs versus the availability of funds will enable the planning area to determine if a reevaluation of its policies and funding procedures is necessary.

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Administrative Tools

Several administrative controls to aid in the development of the transportation plan have been provided to municipalities through the General Statutes of North Carolina. Several of the more important ones are subdivision regulations, zoning ordinances, future street line ordinances, and urban renewal. These administrative controls offer invaluable aid in the development of the transportation plan. The assistance they provide can vary from getting a new facility completely constructed to only procuring a portion of the required right of way. A review of the right of way cost for recommended projects in this report emphasizes the benefits obtainable in that right of way costs for projects in developed corridors often greatly exceed the construction cost.

A periodic reexamination of administrative controls are warranted to determine if any revisions should be made in existing controls, procedures, or regulations. Appendix A gives a complete inventory of the recommended thoroughfare plan including the administrative controls as they apply to individual projects. Following is a discussion of the more important administrative controls:

Subdivision Controls

A subdivision ordinance requires that every subdivider submit to the City Planning Department a plot of his proposed subdivision. Certain standards must be met by the developer before he can be issued a building permit to construct his development. Through this process, it is possible to reserve or protect the necessary right of way for projected streets which are a part of the thoroughfare plan and to require street construction in accordance with the plan.

Streets which may be partially or wholly built through use of the subdivision ordinance are:

1. Outer Loop from SR 1002 to SR 2120
2. Outer Loop from SR 2120 to SR 1914
3. Outer Loop from Old Mocksville Road to Statesville Boulevard
4. Outer Loop from Stokes Ferry to SR 2126

Official Street Map

A municipality may, through special enabling legislation, adopt an official street map which indicates both existing and future street lines. No new construction or reconstruction of structures would be permitted within the designated future street lines. This would over a period of time reduce the cost of additional right of way along densely developed thoroughfares which will require widening at some future date.

Facilities which could benefit from an official street map with specified setback distances are:

1. Innes Street
2. Salisbury Blvd.
3. Main Street
4. Faith Road

Zoning Ordinance

A zoning ordinance can be beneficial to thoroughfare planning in that planned locations of various land uses and planned densities of dwelling units can be realized. This provides a degree of stability on which to make future traffic projections and to plan streets and highways.

Other benefits of a good zoning ordinance are: (1) the establishment of standards of development which will aid traffic operations on major thoroughfares; (2) the minimization of strip commercial development which creates traffic friction and increases the traffic accident potential; and (3) the requirement for provision of off-street parking by new developers with the purpose of eventual prohibition of all curb parking on major thoroughfares.

Zoning ordinances should be enacted to control strip development along the major traffic carrying thoroughfares. There are several major streets on the existing system that have experienced a decreased traffic carrying capacity due to strip development. Zoning measures should be used to help maintain traffic carrying capability by retarding strip development after implementation of the major street improvements recommended in this report.

Streets within the planning area that either currently have strip development or will likely have strip development occur if not prohibited are:

1. Innes Street
2. Main Street
3. Old Mockville Road
4. Statesville Boulevard
5. Mahaley Avenue
6. Brenner Avenue
7. Salisbury Blvd.

Community Development

Community Development is the term used to describe the removal of blight in cities. It is one of the few tools available for correcting basic mistakes in the existing street pattern.

Community Development is carried out under the framework of the amended New Housing Act of 1974. The basis for the process of urban renewal is carried out under the Community

Development Block Grants Program. Urban renewal consists of a three-fold attack on blight. It calls for the conservation of good areas of the cities, rehabilitation of declining areas, and for clearance of slum areas so that they may be redeveloped to acceptable standards. If a municipality meets certain requirements as to a master plan, city codes and ordinances, and citizen participation, it may obtain assistance in such a program from the Federal Government with the U. S. Government paying three-fourths of the cost of the project.

Portions of the Boundary Street Extension would be in an area where urban renewal funds could be used if available.

Municipal Service Districts

Under Chapter 160A, Sections 535-543 of the General Statutes, the legislative body of a municipality may create one or more municipal service districts in a downtown commercial area in order to raise additional funds for physical improvements. One of the stipulated purposes of the district is to facilitiate traffic flow and parking. The district may float a bond issue which would be paid off with revenues from an extra ad valorem tax on all property within the district's boundaries. Once the improvements have been completed and the bonds retired, the extra tax would cease and the district would dissolve.

The business districts of Salisbury probably could not expect to generate enough revenues for major road construction projects, but funds could be raised for local street improvements and off-street parking provisions.

Coordination Between Systems and Project Planning

After approval by the Board of Transportation for local capital improvement projects as additions to the "North Carolina Highways Improvement Program", indepth project studies will be conducted. As input to these studies, the thoroughfare plans location and cross section recommendations are used. In instances where indepth project studies develop a recommendation that greatly differs from the thoroughfare plan, the new recommendations shall be analyzed in the context of the thoroughfare plan to determine the system-wide impacts as well as check the feasibility of the recommendation.

IX. SUMMARY

The analysis of this study shows that the existing thoroughfare plan is still conceptually sound and with a few minor modifications and expansion it will continue to serve as a viable thoroughfare plan for the Salisbury area.

Growth over the past decade has been slower than originally anticipated which is part of the reason for few changes even with a more distant design year. Operational improvements should be implemented to their fullest extent prior to major thoroughfare construction to decrease expenses and improve system efficiency prior to project programming.

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APPENDICES

APPENDIX A - TRAVEL FORECAST MODELS AND DATA

APPENDIX B - RECOMMENDED DEFINITIONS AND DESIGN STANDARDS FOR SUBDIVISION ORDINANCES

APPENDIX C - THOROUGHFARE PLAN STREET TABULATIONS AND RECOMMENDATIONS

APPENDIX A

TRAVEL FORECAST MODELS AND DATA

1981 Internal Trips

The internal trip patterns were determined using the following procedure:

1 - Determination of zonal trip productions using areawide trip generation rates and zonal dwelling unit tabulations.

2 - Determination of zonal attraction factors utilizing 1981 traffic counts and the regression equation developed in 1971.

3 - Determination of trip distribution utilizing a three purpose gravity model using trip length frequency curves developed from the 1971 internal O-D survey.

4 - Assignment of traffic to the existing network and accuracy checks on procedures.

Internal Trip Productions: Average daily trip production were estimated on a zonal basis in four categories: (1) trips produced by dwelling units, (2) trips produced by trucks, (3) trips produced by commercial passenger vehicles, and (4) trips produced by taxis.

Dwelling unit trip generation rates were assigned to traffic zones on the basis of race and housing conditions. The number of dwelling units in each zone was determined from 1980 Census data and aerial photography. 1981 Dwelling unit trip generation rates are given in Table 1.

The trip generation rate for trucks was obtained from home interviews conducted in Wilson, North Carolina, and was estimated to be 6.7 trips per vehicle per day. Commercially owned passenger vehicles were also estimated to make 6.7 trips per vehicle on the assumption that they would have trip generation characteristics similar to trucks. The trip generation rate for taxis was estimated to be 40 trips per vehicle per day. Truck, commercially owned passenger vehicle, and taxi rates were held constant over the entire planning period.

The total trips generated by dwelling units, trucks, commercial autos and taxis were summed to produce total internally generated trips. This total also included trips that had origins or destinations outside the planning area. Since these trips were external-internal trips which would be distributed to the zones as external trips, they had to be removed from the total to obtain net internal trips.

They were estimated by applying a factor of 1.17 to the rates determined in 1971 home interviews. Since 1971, vehicle ownership in Rowan County has increased by 33%. However, recent trends show a declining rate of increase in total vehicle miles traveled. The present rate of increase is approximately half the rate of increase in 1971. Dwelling unit trip generation rates were adjusted by a factor of 1.17 to reflect these trends.

$$1971 \text{ avg. gen rate} \times \frac{\frac{1971 \text{ persons/vehicle}}{1981 \text{ persons/vehicle}}}{2} - 1) + 1 = 1981 \text{ gen. rate}$$

A factor of .82 was applied uniformly to all traffic zones to obtain internal trips. This factor was based on the trips produced by vehicles garaged inside and crossing the external cordon and the total internally generated trips as determined from the 1971 external origin-destination survey. This factor was determined as

Percent Internal Trips of Total Trips Produced =

$$1.00 - \frac{\text{External Trips for Vehicle Garaged inside the Cordon}}{\text{Total internally Generated Trips}}$$

Zonal trip production were then divided into three purposes: home-based work trips (HBW); other home-based trips (OHB); and non-home based trips (NHB). The following percentages in each purpose category for vehicles garaged inside the planning area were obtained from the 1971 Salisbury Origin and Destination Survey: HBW trips, 22 percent; OHB trips, 53 percent; and NHB trips, 25 percent.

Secondary NHB trips, produced by vehicles garaged outside but having two or more trip ends within the planning area also contribute to the total internal trips. The NHB trips produced by external traffic were estimated as follows: Secondary NHB Trips = 0.5 (External-Internal NHB Trips). The coefficient 0.5 was determined from the 1971 external cordon origin-destination traffic survey. The secondary NHB trips calculated above were added to the total internally produced NHB trips previously calculated. The total NHB trips were then redistributed to the traffic zones based on the trip attraction factors for NHB trips.

Appendix A Table 1		
1981 Dwelling Unit Trip Generation Rates		
	Housing Condition and Race	Generation Rate
AAW	Above Average White	10.6
AW	Average White	8.8
BAW	Below Average White	6.6
AANW	Above Average Non-White	7.0
ANW	Average Non-White	7.6
BANW	Below Average Non-White	4.4

Internal Trip Attractions - Home based work trip attraction factors were assumed to be the total employment (factored to match productions) within the zone as given in Table 3, Appendix A. Other trip attractions were determined for individual zones using the following equation:

$$Y = 37.9 + 0.75\ X_1 + 0.53\ X_2 + 11.33\ X_3 + 2.80\ X_4 + 0.77\ X_5 + 0.18\ X_6$$

where Y = Attraction factor
X_1 = Manufacturing Employment
X_2 = Wholesale and Retail Employment
X_3 = Highway Retail Employment
X_4 = Finance and Government Employment
X_5 = Service Employment
X_6 = Dwelling Units

These attractions were factored to match productions and used to determine other home based trips and non-home-based trips attracted to each zone.

In the 1971 regression equation, external trip ends for all vehicles were used as the dependent variable and regressed on the six independent variables to derive an estimating model. In testing the significance of the equation, the multiple correlation coefficient (R) was calculated to be 0.98. This is a measure of the association or dependence between the independent variables and the dependent variable. A values near 1.0 indicates a high degree of association. The T values of the regression coefficients were also highly significant, which indicates there was little chance of the true value of any coefficient equaling zero. Multiple regression statistical data are given in Table 2.

APPENDIX A

TABLE 2

Multiple Regression Satistical Data

Variable	Coefficient	Standard Error Of Coefficient	T. Value	Beta Coefficient
X_1	0.75	0.088	8.55	.226
X_2	0.53	0.484	1.10	.069
X_3	11.33	0.868	13.06	.469
X_4	2.80	0.470	5.95	.308
X_5	0.77	0.130	5.91	.183
X_6	0.18	0.029	6.32	.191
Standard Error of Y			127.85	
Constant			37.9	
Multiple Correlation Coefficient (R)			.98	

Trip Distribution - The gravity model trip distribution program was used to distribute internal trips. Input to this program included: (1) zone-to-zone travel times as obtained from a "skim trees" computer program utilizing the existing 1981 major street network; (2) individual zoned trip productions; and (3) trip length frequency curves for various trip categories.

Trip length frequency curves used were derived from the 1971 internal O-D Survey. Trip distribution curves are given in Figure 1 and in tabular form in Table 3. Friction factors derived from the trip length frequency curves are shown in Table 4.

Table 3

Salisbury Modeled Trip Length Distributions

Travel, Time (Minutes)	Percent Trips Distributed			
	HBW	OHB	NHB	External-Internal
1	4.06	4.22	7.72	3.83
2	4.94	5.03	8.55	3.94
3	5.49	8.03	10.28	4.16
4	7.13	9.57	11.58	5.54
5	8.45	10.94	13.77	4.95
6	9.87	11.93	10.53	5.41
7	10.97	10.94	8.82	6.06
8	10.31	9.11	8.16	8.27
9	8.50	7.18	6.52	9.21
10	7.57	6.01	4.35	9.32
11	6.36	4.96	3.03	9.06
12	4.94	3.93	2.37	8.53
13	3.73	2.75	1.58	8.09
14	3.18	2.24	1.08	4.73
15	2.08	1.48	0.79	3.68
16	1.20	0.97	0.53	2.90
17	0.77	0.54	0.36	1.31
18	0.44	0.17	0.00	1.17
19	0.00	0.00	0.00	0.73
20	0.00	0.00	0.00	0.12

Table 4

Friction Factors

Travel, Time (Minutes)	HBW	HBO	NHB	External-Internal
1	329	330	277	873
2	467	460	560	865
3	182	293	386	758
4	136	202	180	833
5	107	151	158	806
6	93	124	96	160
7	107	109	85	162
8	99	86	85	163
9	90	76	70	121
10	82	65	49	89
11	87	61	42	84
12	76	57	37	72
13	83	54	30	81
14	99	59	26	61
15	91	52	28	57
16	80	54	22	47
17	81	41	22	29
18	89	22	21	47
19	81	21	21	53
20	80	20	20	5

1981 External and Through Trips - Traffic counts taken at 22 stations on the perimeter of the planning area gave the total number of external trips. Percentages of through trips in 1971 at each station were used to compute 1981 through trips. The remaining trips at each station were external-internal trips. The total external-internal trip productions were calculated to be 66 percent of the total internal attraction. A factor of .66 was applied uniformly to each traffic zone to compute total external-internal trips. Total external volumes, through trips and external-internal trips at each station are given in Table 5.

Accuracy Checks

The synthetic method of developing internal travel patterns was checked through comparison of assigned traffic to actual screenline crossings and ground counts. The assignment of traffic to the major street system was done utilizing a computer traffic assignment program based on all-or-nothing assignment (minimum time). The screenlines established for control purposes are shown in Figure 2. The comparison of traffic counts along the screenlines with the assigned traffic volumes is shown in Table 6.

Table 5

1981 and Projected 2005 Volumes at External Stations

	1981			2005		
STA#	Through Trips	Ext-Int Trips	Total	Through Trips	Ext-Int Trips	Total
1	1166	4134	5,300	1980	7020	9,000
2	24	376	400	36	564	600
3	124	1426	1,550	280	3220	3,500
4	414	4186	4,600	540	5460	6,000
5	18180	2020	20,200	23400	2600	26,000
6	396	2904	3,300	852	6248	7,100
7	54	546	600	100	1000	1,100
8	220	1780	2,000	300	2800	3,100
9	330	2670	3,000	570	4630	5,200
10	92	108	200	138	162	300
11	1587	5313	6,900	2300	7700	10,000
12	56	744	800	100	1500	1,600
13	117	783	900	150	1000	1,150
14	357	4743	5,100	700	9800	10,500
15	85	1615	1,700	100	2000	2,100
16	18480	4620	23,100	29600	7400	37,000
17	1350	7650	9,000	1900	10600	12,500
18	496	2604	3,100	1280	6720	8,000
19	418	3382	3,800	800	6400	7,200
20	240	2160	2,400	400	3500	3,900
21	3082	10318	13,400	6440	21560	28,000
22	319	2581	2,900	450	3650	4,100
		66663			115516	

Table 6

Comparison of Assigned and Actual Screenline Crossings

Screenline	Ground Count	Assigned Volume	Accuracy
1	71,590	71,650	100.1%
2	54,900	54,650	99.5%

A summary of the comparison of assigned traffic to existing ground counts is given in Table 7.

TABLE 7

Comparison of Assigned Traffic to 1981 Ground Counts

Volume Group	Number of Observations	Average Ground Count	Average Assigned Volume	Avg. Percent Difference
0-3000	11	1,252	1,180	12.4%
3001-5000	9	3,822	3,738	9.1%
5001-10,000	9	7,544	7,900	12.5%
over 10,000	13	16,000	15,930	7.1%

2005 Internal Trips

Design year travel patterns were estimated using projected 2005 planning area data. The same procedure used to estimate 1981 internal travel was followed.

Trip productions were estimated on a zonal basis in four categories: (1) trips produced by dwelling units, (2) trips produced by trucks, (3) trips produced by commercial autos and (4) trips produced by taxis.

The number of dwelling units in each zone was estimated based on 2005 planning area data, zoning maps and current building trends. Dwelling unit trip generation rates for 2005, given in Table 8, were estimated by applying a factor of 1.17 to the 1981 generation rates. This factor reflects the expected increase in vehicle ownership while taking into account the changing trend in vehicle miles traveled.

Table 8 2005 Dwelling Unit Trip Generation Rates		
	Housing Conditions and Race	Generation Rate
AAW	Above Average White	11.3
AW	Average White	9.7
BAW	Below Average White	7.8
AANW	Above Average Non-White	8.2
ANW	Average Non-White	8.7
BANW	Below Average Non-White	5.1

The number of trucks garaged in the planning area in 2005 was estimated as follows:

$$\text{2005 Trucks} = \frac{\text{1981 Trucks}}{\text{1981 Total Vehicles}} \times \text{2005 Total Vehicles}$$

$$\text{2005 Total Vehicles} = \frac{\text{2005 Estimated Population}}{\text{Estimated Persons per Vehicle}}$$

The same method was used to estimate 2005 commercial passenger vehicles and taxis. These vehicles were distributed to individual traffic zones according to the land development plan and anticipated commercial and land use trends. Truck, commercial auto, and taxi generation rates were assumed to remain constant over the planning period.

The percentage breakdown of internal trips by purpose and the percentage of non-home based trips generated by external traffic were assumed to remain constant for 2005. Non-home based trips produced by internal traffic were added to non-home based trips produced by external traffic. The total non-home based trips were then redistributed to the traffic zones on the bases of the 2005 non-home based trip attraction factors.

The percentage breakdown of internal trips by purpose and the percentage of non-home based trips generated by external traffic were assumed to remain constant for 2005. Non-home based trips were then redistributed to the traffic zones on the basis of the 2005 non-home based trip attraction factors.

Before input to the gravity model distribution program, both home based and non-home based internal trip productions were reduced by 18.0 percent, the percent internally generated trips assumed to cross the planning area boundary.

The 2005 zonal employment totals were used as trip attraction factors for home based work trips. The distribution of 2005 zonal employment is given in Table 2, Appendix C, and was estimated on the basis of land use trends in each zone. The total employment within the planning area was assumed to be directly proportional to planning area population growth. Trip attraction factors for other home based trips and non-home based trips were determined by the input of 2005 zonal employment and population data into the regression equation used for 1981 attractions.

The gravity model trip distribution program was used to distribute 2005 internal trips. Input to this program included: (1) 2005 zone to zone travel times, (2) estimated 2005 individual zonal trip productions, and (3) trip length frequency curves for various trip categories. 1981 trip length frequency curves were extended to accomodate spatial growth in the area.

2005 External and Through Trips

Historic counts at 22 external stations were used to project 2005 external and through trips. These historic counts are given in Table 10. Based on the historic traffic counts, growth factors were established and station volumes were predicted for 2005. The percentage of through trips at each station was assumed to remain constant for the planning period. The estimated 2005 through trip ends were balanced using the FRATAR trip end balancing computer program. 1981 and projected 2005 through trips, external-internal trips and total external volumes at each station are given in Table 5.

Table 9

Historical Counts and Projected 2005 External Volumes at External Stations

Stations		1971	1973	1975	1978	1981	2005
1	99	4,000	4,100	4,500	5,400	5,300	9,000
2	100	250	250	350	330	400	600
3	101	950	950	1,080	1,600	1,550	3,500
4	102	3,950	4,000	3.500	3,000	4,600	6,000
5	103	21,200	22,000	21,700	22,400	20,200	26,000
6	104	1,700	1,900	1,900	2,800	3,300	7,100
7	105	450				600	1,100
8	106	1,300		1,300		2,000	3,100
9	107	2,000	3,800	3,000	4,600	3,000	5,200
10	108	120				200	300
11	109	5,400		6,580		6,900	10,000
12	110	450		500		800	1,600
13	111	650		600		900	1,150
14	112	2,350		2,800		5,100	10,500
15	113	1,700		1,900		1,700	2,100
16	114	20,500	24,500	26,000		23,100	37,000
17	115	7,200	7,700	7,300	7,000	9,000	12,500
18	116	1,300		2,000		3,100	8,000
19	117	2,400		2,900		3,800	7,200
20	118	1,700		2,000		2,400	3,900
21	119	6,400		10,500		13,400	28,000
22	120	2,400		2,900		2,900	4,100

ZONE	DWELLING UNIT RATING AAW	AW	BAW	AANW	ANW	BANW	ZONE POP	DWELLING UNIT TRIPS AAW	AW	BAW	AANW	ANW	BANW	AUTO TRIPS	SPECIAL VEHICLES TRUCKS	TRUCK TRIPS	COMMR AUTOS	COMMR AUTO TRIPS	TAXIS	TAXI TRIPS	TOTAL TRIPS	INTRL TRIPS	HOME WORK TRIPS	OTHER HOME TRIPS	NON-HOME TRIPS	ADJST WORK ATTRS	ADJST OTHER ATTRS	ADJST NON-H ATTRS	ZONE
1	2	43	12			8	200	18	323	67			30	438	52	348	47	315	12	480	1581	1296	285	687	324	1970	4422	4295	1
2	11	38	29				238	100	285	162				547	32	214	20	134	16	640	1335	1259	277	667	315	1126	2129	2067	2
3	6	101	21	1	11	22	499	55	758	118	6	72	84	1093	8	54	12	80			1227	1006	221	533	252	322	721	700	3
4	15	156	153		2	72	1217	137	1170	857		13	274	2451	3	20					2471	2026	446	1076	507	98	231	225	4
5	3	101	109				649	27	758	610				1395	6	40	10	67			1502	1232	271	653	308	218	1770	1719	5
6		34	24				177		255	134				389	8	54	6	40			463	396	87	210	99	162	276	268	6
7	1	513	11			2	1632	9	3848	62			6	3927	10	67	6	40			4034	3308	726	1753	827	319	558	541	7
8	4	28	5	15	266	200	1604	36	210	28	90	1729	760	2853	19	127	18	121			3101	2543	559	1348	636	685	2241	2176	8
9					174	512	2126					1131	1946	3077	2	13	2	13			3103	2544	560	1348	636	121	575	558	9
10															80	536	34	228			764	626	138	332	157	1370	1294	1257	10
11		23	5		1	7	111		173	28		7	27	235	4	27	2	13			275	226	50	120	57	82	143	139	11
12	31	311	70				1267	282	2333	392				3007	42	281	7	47			3335	2735	602	1430	684	523	905	879	12
13		84	105				575		630	588				1218	9	60	2	13			1291	1059	213	561	265	289	479	465	13
14		38	21				181		285	118				403	1	7	2	13			423	347	76	184	87	36	126	123	14
15	157	278	30				1423	1429	2085	168				3682	16	107	26	174			3963	3250	715	1723	813	691	773	751	15
16		20	10			14	135		150	56			53	259							259	212	47	112	53	16	60	59	16
17	7	53	74				407	64	398	414				876	13	87	6	40			1003	822	181	436	206	11	93	91	17
18		20	18				116		150	101				251	7	47					298	244	54	129	61	770	538	522	18
19	11	133	4				457	100	998	22				1120							1120	918	202	487	230		85	83	19
20	228	286	26			13	1689	2075	2145	146			49	4415							4415	3620	796	1919	905	79	459	446	20
21	37	164	18			9	701	337	1230	101			34	1702	25	168	4	27			1897	1556	342	825	389	144	260	253	21
22	23	90	16			5	412	209	675	90			19	993	12	80	1	7			1080	886	195	470	222	19	103	100	22
23	26	198	28			4	788	237	1485	157			15	1894	2	13					1907	1564	344	829	391	81	326	317	23
24	20	19	6				137	182	143	34				359							359	294	65	156	74		60	59	24
25	1	31	12			3	144	9	233	67			11	320							320	262	58	135	66	66	113	110	25
26	272	250					1591	2475	1875					4350							4350	3567	785	1891	892	62	256	249	26
27	1	53	9				194	9	358	50				457							457	373	83	199	94	4	97	94	27
28	90	27	8				378	819	203	45				1067							1067	875	193	484	219	1	82	79	28
29	54	187	9				769	491	1403	50				1944	11	74	29	194			2212	1814	399	961	454	720	1820	1767	29
30		47	5				161		353	28				381	4	27	1	7			415	340	75	180	85	725	709	688	30
31	15	202	15				716	137	1515	84				1736	45	302	17	114			2152	1765	388	935	441	976	2429	2359	31
32	217	336	11		1	84	1989	1975	2520	62		7	319	4883	32	214	3	20			5117	4196	923	2224	1049	1485	2255	2190	32
33	143	30					522	1301	225					1526							1526	1291	275	663	313	8	97	94	33
34		148	80			4	711		1110	448			15	1573	20	134	15	101			1606	1483	326	786	371	88	185	180	34
35	1	78	59				422	9	585	330				924	28	188	5	34			1146	940	207	498	235	858	961	933	35
36	25	252	39				973	228	1890	218				2336			3	20			2356	1932	425	1024	483	17	160	156	36
37	81						243	737						737							737	604	133	320	151	62	125	121	37
38	31	8	56		21	136	773	282	60	314		137	517	1310			1	7			1317	1080	238	572	270	30	159	155	38
39	7	153	69				702	64	1148	386				1598			3	20			1618	1327	292	703	332	25	121	117	39
40		94	100				591		705	560				1265							1265	1037	228	350	259	12	132	128	40
41	18	105	32		1	18	535	164	788	179		7	68	1206							1206	989	218	524	247	99	178	172	41
42	34	298	45				1161	309	2235	252				2796			5	34			2830	2321	511	1230	580	3	142	138	42
43	11	131	9				466	100	983	50				1133			6	40			1173	962	212	510	241		85	83	43
44	7	73	23		1	14	362	64	548	129		7	53	601							801	657	145	348	164	139	615	598	44
45	1	92	27				369	9	650	151				850			3	20			870	713	157	378	178	155	397	386	45
46	7	80	17				320	64	600	95				759			1	7			766	628	138	333	157	6	79	77	46
47	43	154	39				723	391	1155	218				1764			3	20			1786	1463	322	775	366	95	459	446	47
48	3	10	31				133	27	75	174				276			1	7			283	232	51	123	58	250	460	447	48
49		15	5				62		113	28				141							141	116	26	61	29		55	54	49
50		24	25				149		180	140				320			3	20			340	279	61	148	70	615	602	585	50
51		12	6			3	64		90	34			11	135			1	7			142	116	26	61	29		55	54	51
52	4	59	21			1	241	36	443	118			4	601			2	13			614	503	111	267	126	4	71	69	52
53		19	12		3	41	231		143	67		20	156	386			3	20			406	333	73	176	83	27	164	160	53
54		3	11			55	213		23	62			205	294							294	241	53	128	60	9	299	290	54
55	3	45	28				233	27	338	157				522			20	134			656	538	118	285	135	15	145	140	55
56		122	32		25	21	617		915	179		163	80	1337							1337	1096	241	581	274	24	122	119	56
57		122	71		14	93	922		915	398		91	353	1757			10	67			1824	1496	329	793	374	82	368	358	57
58		7	5		117	164	908		53	28		761	623	1465							1465	1201	264	637	300	261	508	493	58
59		2	4		11	157	542		15	28		72	597	712							712	584	128	310	146	12	122	119	59
60		61	50		32	24	312		458	280		208	91	1037	15	101					1138	933	205	494	233	683	948	921	60
61		26	52	52	65	66	800		195	291	312	423	251	1472							1472	1207	266	640	302	7	112	109	61
62	30	54	15				302	273	405	84				762							762	625	138	331	156	3	85	83	62
63		4	7				33		30	39				69							69	57	13	30	14		53	51	63
64	1	5	48			15	210	9	38	269			57	373							373	306	67	162	77	6	66	64	64
65	2	13	20				106	18	98	112				228							228	187	41	99	47	2	58	56	65
66	11	25	20		1	8	199	100	188	112		7	30	437							437	358	79	150	90	3	85	83	66
67	8	56	16				246	73	420	90				583							583	478	105	253	120	13	104	101	67
68	5	56	55			19	413	46	420	308			72	846							846	694	153	368	174	3	82	79	68
69		6	39				136		45	218				263							263	216	48	114	54	9	60	59	69
70		4	32				108		30	179				209							209	171	38	91	43	71	107	103	70
71	26	33	10				204	218	248	56				522							522	428	94	227	107	44	224	217	71
72	20	68	9				298	182	510	50				742							742	608	134	322	152		74	72	72
73		3	29		8	69	273		23	162		52	186	423							423	347	76	184	87	7	209	203	73
74	1	87	18			11	361	9	653	101			42	805	12	80					885	726	160	385	182	64	103	100	74
75		75	18		1	36	402		563	101		7	137	808	5	34					862	690	152	366	173	52	372	361	75
76	8	101	33		4	37	563	73	758	185		26	141	1183	14	94					1277	1047	230	553	262	658	506	492	76
77		64	37				309		480	207				687							687	563	124	298	141	2	74	72	77
78		140	15				479		1090	84				1134							1134	930	205	493	233	31	89	87	78
79		35	6				127		263	34				297							297	244	54	129	61	12	60	59	79
80	2	132	24				487	18	990	134				1142							1142	936	206	496	234	4	87	84	80
81		108	32			12	468		810	179			46	1035							1035	849	187	450	212	929	823	799	81
82		89	145				781		668	812				1480	18	121	35	235			1836	1506	331	798	377	301	4062	3945	82
83				76	58	97	709				456	377	369	1202							1202	986	217	523	247	47	158	153	83
84		98	88		27	19	711		735	493		176	72	1476			5	34			1510	1238	272	656	310	915	1053	1023	84
85	2	1	30		1	46	265	18	8	168		7	175	376			1	7			383	314	69	168	79	152	68	66	85
86		27	62				270		203	347				550	11	74	2	13			637	522	115	277	131	635	944	917	86
87		24	24				146		180	134				314	11	74	3	20			408	335	74	178	84	266	485	471	87
88		66	26			1	286		495	146			4	665	8	54					699	573	126	304	143	118	982	954	88
89	1	145	20				313	9	1068	12				1209	8	54	4	27			1290	1058	233	561	265	38	179	174	89
90	68	82	22				524	619	615	123				1357	14	94	2	13			1464	1200	264	636	300	433	1732	1682	90
91	39	228	21				887	355	1710	118				2183	11	74	2	13			2270	1861	409	986	465	55	151	147	91
92		19	19			8	141		143	106			30	279	27	181	65	436			896	735	162	390	184	647	5119	6971	92
93	161	26					566	1465	195					1660							1660	1361	299	721	340	7	112	109	93
94	19	65	2				265	173	488	11				672			1	7			679	557	123	295	139	11	64	63	94
95	52	56	10				360	473	420	56				949							949	778	171	412	195	6	78	75	95
96	20	26	5			2	162	182	195	28			8	413			2	13			426	349	77	185	87	9	63	61	96
97	24	18	1				131	218	135	6				359							359	294	65	156	74	3	60	59	97
98	150	185	10		60	10	1271	1365	1388	56		390	38	3237							3237	2654	584	1407	664		149	144	98
TOTAL	2299	8311	2781	144	905	2122	50823	20920	62353	15573	864	5890	8064	113664	645	4324	442	3096	28	1120	122204	100206	22052	53111	25067	22037	53094	51570	

AAW ABOVE AVERAGE WHITE
AW AVERAGE WHITE
BAW BELOW AVERAGE WHITE
AANW ABOVE AVERAGE NON-WHITE
ANW AVERAGE NON-WHITE
BANW BELOW AVERAGE NON-WHITE

PERSONS PER DWELLING UNIT 3.04
TRIP GENERATION RATE
TRUCKS 6.70
COMMERCIAL AUTOS 6.70
TAXIS 40.00

PERCENT INTERNAL TRIPS OF TOTAL TRIPS PRODUCED =

1.00 - EXTERNAL TRIPS FOR VEHICLES GARAGED INSIDE CORDON / TOTAL INTERNALLY GENERATED TRIPS X 100 = 82%

SALISBURY **2005** INTERNAL TRIP DATA

ZONE	DWELLING UNITS WHITE HGH	WHITE MED	WHITE LOW	NON-WHITE HGH	NON-WHITE MED	NON-WHITE LOW	SPECIAL VEHICLES TRUCKS	SPECIAL VEHICLES COMM AUTOS	SPECIAL VEHICLES TAXIS	UNADJ HOME 6TT83	UNADJ OTHER 63T83	DWELLING UNITS W	DWELLING UNITS N-W	DWELLING UNITS TOT	WHITE PCPULATION HGH	WHITE PCPULATION MED	WHITE PCPULATION LOW	NON-WHITE POPULATION HGH	NON-WHITE POPULATION MED	NON-WHITE POPULATION LOW	TRIPS BY DWELLING UNITS WHITE HGH	TRIPS BY DWELLING UNITS WHITE MED	TRIPS BY DWELLING UNITS WHITE LOW	TRIPS BY DWELLING UNITS NON-WHITE HGH	TRIPS BY DWELLING UNITS NON-WHITE MED	TRIPS BY DWELLING UNITS NON-WHITE LOW	AUTO TRIPS 76IP3	TRUCK TRIPS 76IP3	COMM AUTO TRIPS	TAXI 76IP3	SCHOOL 76IP3	INTRL TRIPS	HOME NCBK TRIPS	OTHER HOME TRIPS	NON HOME INTRL	NON HOME INTRL	ADJST WORK AT76S	ADJST OTHER AT76S	ADJST NON-HB AT76S	ZONE
1	2	90	14			9	107	56	17	2105	4020	66	9	75	6	150	42	198			27	27	23	985	109			54	671	217	235	680	2442	2003	441	1062	501			2294	8989	3168	1
2	17	44	33				55	25	23	1168	1872	90		90	39	132	99	270					147	427	257				831	369	168	920	2268	1816	413	994	469			1838	4186	2334	2
3	7	116	24	1	12	25	22	15		316	599	147	35	186	21	348	72	441	5	39	75	117	79	1125	187	8	113	150	1662	147	101			1910	1566	765	830	392			465	1339	1067	3
4	17	179	176			82	8			27	178	372	84	456	51	537	528	1116		6	248	252	192	1736	1373		17	492	3810	54			3864	3166	697	1679	792			42	380	368	4
5	4	120	130				15	12		175	1217	254		254	12	360	390	762					45	1164	1014				2223	101	80			2464	1971	436	1045	493			274	2721	2130	5
6		40	28				19	4		130	192	68		68		120	84	204						388	218				606	127	27			760	623	137	330	156			282	429	342	6
7	1	589	13			3	22	4		142	311	803	5	808	3	1767	39	1809			9	9	11	5711	101			18	5843	147	27			6013	4934	1085	2615	1234			222	304	562	7
8	5	32	6	17	306	230	43	21		671	1866	43	553	596	15	96	18	129	51	918	690	1659	57	310	47	139	2662	1380	4559	288	141			5024	4120	906	2184	1030			1050	6172	2327	8
9					200	588	4	2		130	514		788	788						800	1764	2384					1740	3528	5268	27	11			5368	4353	958	2307	1088			208	1149	916	9
10							175	39		2135	1692																		1173	261			1434	1176	259	623	294			3341	3783	2017	10
11		92	20		4	28	10	3		438	439	112	32	144		276	60	336		12	84	96		892	156		35	168	1251	67	20			1338	1017	241	581	274			655	982	782	11
12	38	357	86				104	10		932	1278	473		473	108	1071	240	1419					407	3463	624				4494	697	67			5258	4312	949	2285	1078			1455	2853	2275	12
13		326	420				21	3		321	552	756		756		1008	1860	2268						7259	3276				6535	1431	18			6685	5485	1207	2907	1371			562	1234	984	13
14		152	86				2	2		192	322	236		236		456	252	708						1474	655				2129	20	13			2162	1773	390	940	443			300	722	576	14
15	628	900	332				25	35		1230	1236	1860		1868	1884	2700	996	5580					7098	8730	2590				18416	235	235			18884	15487	3407	8208	3872			1925	2764	2204	15
16		80	48			56	10			10	268	120	56	176		240	120	360			168	168		738	313			336	1424					1424	1188	257	619	292			16	465	371	16
17	28	212	258				28	5		60	156	536		536	84	636	888	1608					316	2056	2309				4681	188	80			4925	4042	889	2142	1011			94	349	376	17
18		80	72				15			1029	628	152		152		240	216	456						776	562				1338	101				1439	1180	260	625	295			1810	1469	3120	18
19	44	532	16				2			10	123	592		592	132	1596	48	1776					497	5160	125				5782	13				5795	4752	1045	2519	1188			18	275	315	19
20	584	732	67				2			44	515	1383		1383	1752	2196	201	4149					6599	7160	523				14222	13				14235	11673	2568	6187	2918			131	1241	990	20
21	55	420	46			23	55	4		256	358	561	23	584		285	1260	138	1683			69	89	1074	4674	359			138	5645	369	27			6041	4554	1090	2626	1239			461	800	638	21
22	59	230	41			13	26	1		15	102	330	13	343	177	690	122	990			39	39	667	2231	320			78	3296	174	3			3477	2851	627	1511	713			23	220	169	22
23	67	507	72			10	5			79	305	648	18	656	201	1521	216	1938			30	30	757	4918	562			60	6257	34				6331	5151	1142	2751	1298			124	682	544	23
24	91	49	15							89	115			115	153	147	45	345					578	475	117				1168					1188	958	211	508	240			154	123	24
25	3	79	31				65	95		113	113	5		5	237	93	739						34	766	242				1042					1042	854	188	493	214			162	212	165	25
26	656	640					7			49	339	1336		1336	2088	1920		4088					7865	6208					14073	47				14120	11578	2547	6136	2895			73	758	685	26
27	3	136	23					5		95	162			162	9	408	69	486					34	1319	179				1532					1532	1256	276	666	314			8	212	189	27
28	270	69	30					43		213	315			319	690	287	60	957					2599	865	156				3434					3624	2608	618	1488	702			87	485	287	28
29	62	215	18				24	25		705	1512	287		287	186	645	30	861					701	2066	78				2865	161	235			3261	2634	588	1417	669			1103	2382	2898	29
30		54	6				9	1		775	639	80		80		162	18	180						524	47				733	60	3			638	523	115	277	131			1213	1429	1139	30
31	17	232	17				98	21		656	2022	266		266	51	696	51	1908					192	2250	133				2575	657	141			3373	2766	609	1466	692			1496	4521	3885	31
32	250	366	13		2	97	71	3		1586	2042	645	99	744	750	1159	59	1547		6	291	297	2825	3764	101		17	582	7269	476	20			7765	6367	1481	3375	1592			2482	4575	2648	32
33	164	35						42		106	199	199		199	492	105		597					1853	740					2193					2192	1758	396	958	450			66	227	189	33
34		170	92			5	44	15		66	135	262	5	267		510	276	786			15	15		1645	718			30	2397	295	101			2793	2250	504	1214	573			183	311	248	34
35	1	90	63				61	7		649	627	159		159	3	270	204	477					11	873	530				1414	409	47			1870	1533	337	812	383			1016	1402	1118	35
36	25	250	95				7	20		137	364			364	87	870	135	1092					328	2617	351				3492		20			3512	2880	634	1526	720			31	306	244	36
37	53						1	3		93	93			93	279			279					1051						1051	7				1058	868	191	460	217			130	212	169	37
38	75	20	143		54	348	10	1		30	195	242	402	644	237	60	429	726		162	1044	1208	93	154	1115		470	2088	4834	67	3			4834	3964	872	2101	951			47	356	268	38
39	18	352	177				6			20	151	587		587	54	1176	531	1761					203	2802	1381				5386	54				5440	4481	981	2364	1115			31	228	269	39
40		241	256				1	1		12	172	497		497		727	768	1491						2328	1997				4325	3	3			4349	3586	785	1890	892			19	385	287	40
41	21	121	37		1	21	9	3		110	153	179	22	201	63	363	111	537		3	63	66	237	1174	289		9	126	1835	60	28			1915	1570	345	832	393			172	351	280	41
42	35	743	52					4		119	434			434	117	1029	156	1302					441	3327	406				4174					4174	3423	753	1814	856			6	266	212	42
43	13	191	10					3		72	174	174		174	39	513	30	522					192	2250	133				2575	657	141			3373	2766	609	1466	692			1496	4521	3885	43
44	8	84	26		1	16	14	7		161	593	118	17	135	26	252	78	354		3	48	51	90	815	203		9	96	1213	94	47			1765	1410	244	588	276			252	1326	1017	44
45	1	106	31				14	8		299	571	138		138	3	318	93	414					11	1028	242				1281	94	54			1429	1172	258	621	293			468	1277	1018	45
46	8	92	20					30		76	120			120	24	278	60	360					90	892	156				1138					1138	933	205	494	233			47	170	136	46
47	45	177	45				10	3		78	327	271		271	147	531	135	813					554	1717	351				2622	67	28			2709	2221	489	1177	555			112	731	583	47
48	2	11	35				22	1		496	654	49		49	9	33	105	147					34	107	273				414	143	3			588	466	103	247	117			658	1462	1166	48
49		17	6				19	3		250	349	23		23		51	18	69						165	47				232	127	28			359	296	65	156	74			391	780	622	49
50		27	26				14	1		439	337	56		56		81	87	168						282	226				588	93	3			684	483	104	256	121			667	842	672	50
51		14	7			4		4		100	316	21	4	25		42	21	63			12	12		136	55			24	215	23				242	158	44	105	50			157	259	207	51
52	5	71	25			1	8	2		50	95	101	1	102	15	213	75	303			3	3	57	689	195			6	947	54	33			1019	831	183	490	208			78	212	169	52
53		22	14		2	47	4			180	490	36	50	86		66	42	108		9	141	150		213	109		26	282	630	27				657	539	119	286	135			282	1096	874	53
54	3	13				63	1	2		285	584	16	63	79	9	39		48			189	189	34	126				378	538	7	13			558	458	101	243	115			446	1306	1041	54
55	4	53	33			4		36		482	90		90		12	159	99	270					45	514	297				816		23			843	691	152	366	173			58	899	317	55
56		140	37		28	24	13			60	208	197	52	249		420	131	551		84	72	156		1358	289		244	144	2035	87				2122	1740	383	922	435			54	465	371	56
57		140	82		16	107	3	26		118	331	222	123	345		420	246	666		48	321	369		1358	640		139	642	2779	20	174			2973	2438	536	1292	610			165	740	590	57
58		8	6		135	189	23			327	406	14	324	338		24	18	42		405	567	972		78	43		1175	1134	2434	154				2568	2122	467	1125	531			124	512	908	58
59		2	8		13	181		20		312	5	194	203			9	18	27		39	543	582		29	47		113	1086	1275		87			1382	1117	246	552	279			31	200	558	59
60		70	58		37	28	33			795	786	128	65	193		210	174	384		111	84	195		675	452		322	168	1621	221				1842	1510	332	800	378			1244	1757	1401	60
61		30	66	60	75	76	1			40	244	90	211	301		90	180	270	180	225	228	623		251	468	492	653	456	2360	7				2363	1941	427	1029	485			63	557	444	61
62		35	62	17				60		50	114			114	105	186	51	342					496	601	133				1130					1130	627	204	491	232			54	201	180	62
63			5	3				75		85	13			13		15	24	39						111	62				173					173	20	48	23				117	190	152	63
64		3	15	141		44				54	159	44	203		9	45	423	477			132	132	34	146	1100			264	1544					1544	1266	279	671	317				121	96	64
65		2	15	23				42		40				40	6	45	69	120					23	148	179				348					348	285	63	151	71				94	79	65
66	13	29	23		1	9		20		59	65	10	75	85	39	87	69	195		3	27	30	147	281	179		9	54	670					670	549	121	291	137			31	122	105	66
67	24	165	47				3	9		121	236			236	72	495	141	708					271	1601	367				2239	20				2259	1852	407	982	463			14	293	234	67
68	15	245	162			56	1	2		40	118	342	56	398	45	494	486	1026			168	168	170	1601	1264			336	3371	7	13			3351	2781	612	1474	695				269	210	68
69		18	115				3			51	133			133		54	345	399						175	897				1072	20				1092	865	197	474	224				214	93	69
70		12	54					54		181	106			106		36	282	318						116	733				849					849	656	153	369	174			85	226	180	70
71	71	57	25					174		232	197			197	213	291	87	591					802	541	228				1969					1969	1615	355	856	404			272	519	414	71
72	59	281	26					123		168	286			286	177	603	78	858					667	1956	203				2820					2820	2312	509	1225	578			152	227	189	72
73		9	86		24	145		116		196	95	169	266			27	258	285		72	435	507		67	671		209	870	1837					1837	1506	331	798	377			132	438	349	73
74	3	257	53		32	35	25	1		256	1170	315	67	380	9	771	159	939		96	105	201	54	2453	413		278	210	3428	168	7			3603	2554	650	1566	739			401	380	203	74
75		221	53		3	106	12	3		312	374	274	109	383		663	159	822		9	318	327		2144	413		26	636	3219	80	20			3315	2722	599	1443	681			956	841	670	75
76	24	258	97		12	109	29			509	419	121	540	72	894	291	1257		26	327	363	271	2451	757		104	654	4677	194				4871	3594	875	2117	999				1138	908	76
77		162	54					5		89	256			256		486	282	768						1571	733				2304					2384	1885	416	1001	472			8	199	159	77
78		171	18				7			62	185			189		513	54	567						1655	140				1795	47				1848	1514	333	802	379			8	139	111	78
79		40	7					2		50	47			47		120	21	141						388	55				443					493	363	80	192	91			5	112	89	79
80	2	152	28				1			378	182			182	6	456	166						23	1495	218				1722	7				1722	1412	311	748	353			552	159	127	80
81		124	37		14		10	40		883	689	161	14	175		372	111	483		42		42		1203	289		122		1614	67	261			1949	1598	388	952	447			400	1382	1541	1228	81
82		102	167			21	40			22	2784	269	21	290		306	501	807			63	83		989	1303			126	2418	268				2686	2263	485	1168	551			36	6225	5964	82
83				87	67	111	1	8		742	121			265					261	201	333	795				713	583	666	1962	7	54			2023	1659	345	879	415			1141	271	216	83
84		113	101		21	22	15	1		300	657	214	53	267		335	303	642		92	66	159					270	132	2286	101	7			2394	1963	432	1040	491			470	1465	1171	84
85	2	1	35		1	53	4	2		1126	590	38	54	92	6	3	105	114		3	159	162	22	10	273		9	318	633	27	13			673	552	121	293	138			1762	1219	1052	85
86		31	71				24	3		1255	1361	102		102		93	212	306						301	554				855	161	28			1036	850	187	451	213			1964	3092	2466	86
87		51	51				24			1680	847	102		102		153	153	306						455	398				893	161				1054	864	190	458	216			2629	1894	1510	87
88		159	63			2	18	4		328	3135	222	2	224		477	189	666			6	6		1542	491			12	2045	121	27			2193	1798	396	953	450			512	4774	3807	88
89	2	349	48				19	2		2485	351	795		359	6	1047	144	1197					23	3385	374				3782	127	13			3922	3216	708	1704	804			3869	785	626	89
90	76	94	25				30	2		25	1945	197		197	234	282	75	591					881	912	155				1988	201	13			2202	1806	357	957	452			55	4349	2468	90
91	45	262	24				24	75		35	122	331		331	115	786	72	993					909	2561	187				3237	161	525			3927	3220	708	1707	805			55	273	218	91
92		21	22			9	60			1547	2032	43	9	52		63	66	129			27	27		204	172			54	430	402				832	682	150	361	171			2421	13018	10381	92
93	185	70					8	1		10	38	215		215	555	90	645						2091	251					2382	54	7			2443	2003	441	1062	501			16	192	153	93
94	53	131	6					10		77	240			240	159	543	18	720					595	1756	47				2402					2462	1970	433	1094	493			16	172	137	94
95	116	118	22					5		93	250			250	330	254	66	750					1243	1145	172			13	2540					2572	2110	464	1118	528			8	208	166	95
96	43	63	12			5	2			58	123	5	128	144	189	36	769				15	15	542	611	94			30	1277	13				1250	1058	233	561	265			16	130	102	96
97	58	63	2				1	5		72	103	2		103	124	129	6	109					655	417	16				1088	7				1095	898	158	476	225			8	161	128	97
98	300	370	20		120	20		28		690	140	830		900	1110	60	2070		360	60	420	3390	3539	156		1044	120	8299					1255	6385	1497	2607	1701				85	68	98
TOTAL	4572	14757	5372	165	1195	3021	1659	553	40	22666	55078	24741	4331	29122	13716	44391	16116	74223	495	3585	9063	12143	237183			29876			266979	11123	3740	1600	283442	232420	51139	123181	58125	40124	51123	123152	98202	

OCCUPANCY RATES	HIGH	MEDIUM	LOW
WHITE	3.0	2.0	3.0
NON-WHITE	3.0	3.0	2.0

	HIGH	MEDIUM	LOW
AUTO TRIPS / D.U.			
WHITE	11.3	9.7	7.8
NON-WHITE	8.2	8.7	6.0
TRUCK TRIPS / TRUCK			6.7
COMMERCIAL AUTO TRIPS / COMMERCIAL AUTO			6.7
TAXI TRIPS / TAXI			40.0

TRIP PERCENTAGE	
INTERNAL CF TOTAL	82
HOME BASED WORK CF INTERNAL	22
OTHER HOME BASED CF INTERNAL	53
NON HOME BASED CF INTERNAL	25

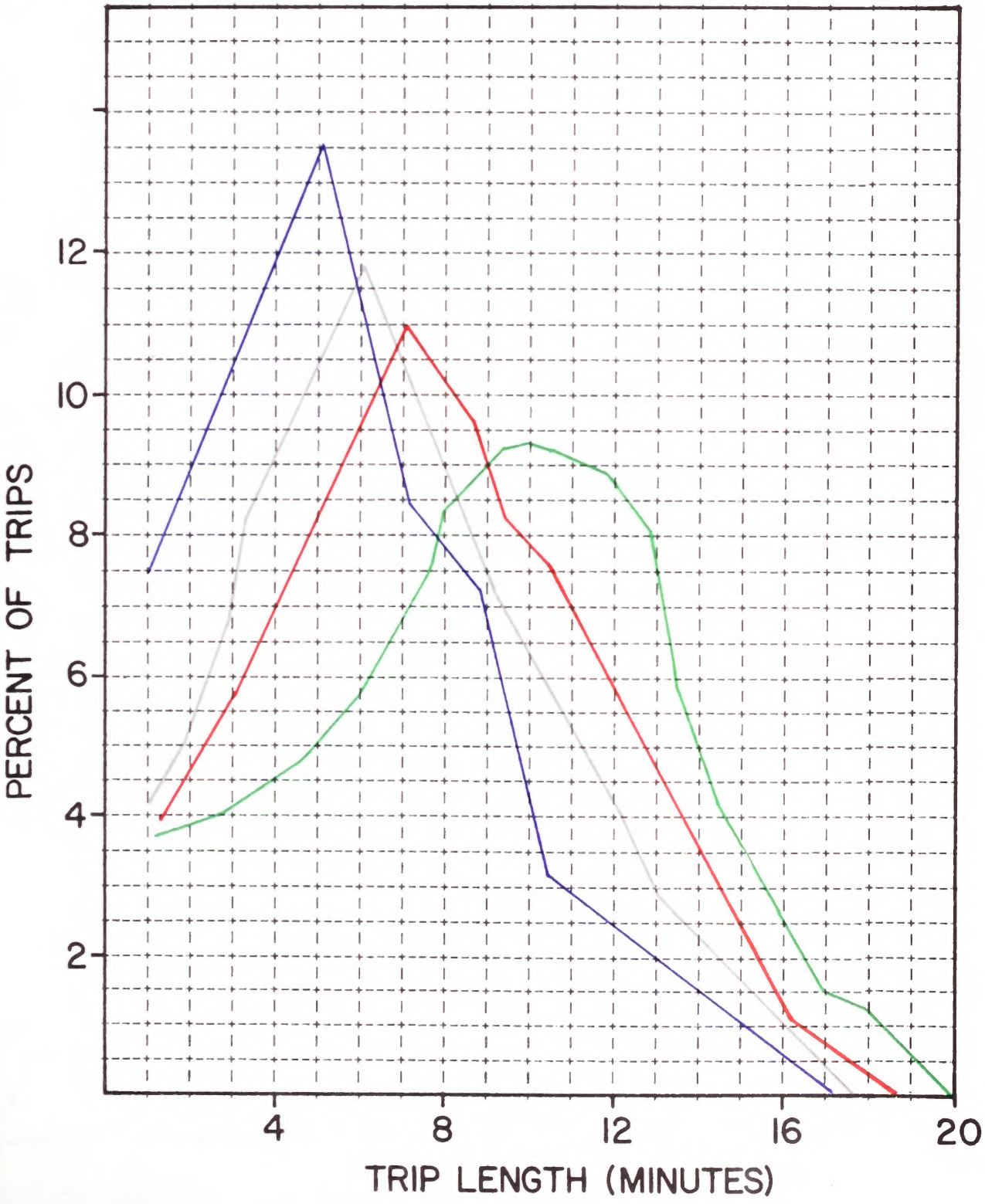
EMPLOYMENT DISTRIBUTION BY TYPE AND ZONE

TRAFFIC ZONE	MANUFACTURING & AGRICULTURE			WHOLESALE RETAIL TRADE			HIGHWAY RETAIL TRADE			FINANCE, INSURANCE, GOVT			GENERAL SERVICES			TOTAL EMPLOYMENT			TRAFFIC ZONE
	1971	1981	2005	1971	1981	2005	1971	1981	2005	1971	1981	2005	1971	1981	2005	1971	1981	2005	
1	475	460	552	475	460	552	117	113	135	452	438	525	292	283	339	1811	1754	75	1
2	218	176	204	437	354	410	44	36	42	306	248	287	231	188	218	1236	1003	90	2
3	50	42	46	36	31	34	0	0	0	154	132	145	95	82	90	335	287	186	3
4	0	0	0	23	8	6	12	4	3	1	0	0	65	22	17	101	34	458	4
5	0	0	0	36	28	25	134	104	93	19	15	13	59	46	41	248	194	245	5
6	88	68	61	57	44	39	8	6	5	0	0	0	33	26	23	186	144	67	6
7	58	166	83	2	6	3	0	0	0	7	20	10	32	92	46	99	284	836	7
8	75	92	101	30	37	41	80	98	107	32	39	43	281	344	378	498	610	596	8
9	0	0	0	2	2	2	7	9	11	56	69	83	23	28	33	88	108	516	9
10	802	1024	1792	26	33	58	2	3	5	2	2	4	123	157	274	955	1220	0	10
11	58	42	252	2	2	12	0	0	0	7	5	30	32	24	144	99	73	60	11
12	472	329	658	76	53	106	30	21	42	10	7	14	80	56	112	668	466	481	12
13	278	209	261	35	26	32	13	10	12	0	0	0	15	11	14	341	257	856	13
14	5	9	54	1	2	12	0	0	0	7	12	72	5	6	36	18	32	44	14
15	259	525	1050	38	77	154	1	2	4	0	0	0	5	10	20	303	615	1491	15
16	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	14	900	16
17	19	4	24	3	1	6	1	0	0	0	0	0	27	6	36	50	10	382	17
18	0	0	0	13	686	1029	0	0	0	0	0	0	0	0	0	13	686	249	18
19	0	0	0	2	0	10	0	0	0	0	0	0	5	0	0	7	0	446	19
20	25	35	42	1	2	2	11	15	18	0	0	0	13	18	22	50	70	1460	20
21	15	25	50	20	33	33	1	2	4	2	4	8	38	64	128	76	128	552	21
22	54	10	9	37	7	6	0	0	0	1	1	1	2	1	1	94	17	285	22
23	2	5	6	7	20	22	2	5	5	11	30	33	4	11	12	26	72	511	23
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	174	24
25	0	0	0	7	22	24	0	0	0	0	0	0	12	37	41	19	59	67	25
26	35	20	18	0	0	0	3	2	2	0	0	0	60	33	30	98	55	1339	26
27	0	2	2	2	0	0	0	2	3	0	0	0	0	0	0	2	4	115	27
28	0	0	0	0	0	0	0	0	0	1	0	20	28	1	21	29	1	595	28
29	0	0	0	32	50	55	35	55	60	75	118	129	265	417	458	407	641	288	29
30	454	200	240	7	3	4	0	0	0	0	0	0	1003	442	430	1464	646	60	30
31	148	193	212	168	220	242	49	65	71	176	230	253	124	162	178	663	869	267	31
32	109	131	157	32	39	47	12	14	17	165	200	240	777	938	1125	1095	1322	746	32
33	0	0	0	0	0	0	0	0	0	0	0	0	11	7	42	11	7	199	33
34	32	28	24	41	36	30	1	1	1	0	0	0	15	13	11	89	78	267	34
35	601	734	624	3	4	3	7	9	7	0	0	0	14	17	14	625	764	159	35
36	4	4	5	0	0	0	0	0	0	10	8	10	3	2	2	17	15	363	36
37	6	12	18	0	0	0	0	0	0	0	0	0	22	43	34	28	55	93	37
38	0	0	0	30	21	23	3	2	2	0	0	0	5	4	5	38	27	454	38
39	0	0	0	13	13	12	0	0	0	0	0	0	8	8	7	21	22	565	39
40	8	6	7	0	0	0	1	1	1	6	4	5	0	0	0	15	11	575	40
41	12	55	69	0	0	0	0	0	0	0	0	0	7	32	40	19	88	200	41
42	0	0	0	0	0	0	0	0	0	0	0	0	28	3	4	28	3	434	42
43	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3	0	182	43
44	27	27	35	17	17	22	30	30	39	1	1	1	48	48	62	123	124	136	44
45	9	7	15	75	60	126	12	10	21	26	21	44	54	43	90	176	142	138	45
46	0	0	0	2	5	30	0	0	0	0	0	0	0	0	0	2	5	120	46
47	0	0	0	22	37	33	12	20	18	0	0	0	17	28	25	51	85	271	47
48	165	177	354	18	19	38	10	11	22	11	12	24	3	3	6	207	223	50	48
49	0	0	200	12	0	30	15	0	10	27	0	10	2	0	0	56	0	24	49
50	760	545	436	0	0	0	0	0	0	0	0	0	3	3	3	763	548	55	50
51	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	51
52	0	0	50	0	0	0	4	0	0	4	0	0	0	1	0	4	1	107	52
53	0	0	0	12	15	90	4	5	30	0	0	0	8	10	60	24	30	100	53
54	0	0	0	0	0	0	0	0	0	5	55	165	3	30	90	8	95	83	54
55	0	0	0	0	0	0	12	5	30	0	0	0	1	1	6	13	6	107	55
56	6	3	18	2	1	6	1	1	6	0	0	0	12	6	36	21	10	316	56
57	12	22	26	13	23	27	4	7	8	5	9	10	39	71	85	73	98	417	57
58	196	251	276	6	7	8	6	7	8	0	0	0	24	31	34	232	297	221	58
59	0	0	0	3	0	0	5	2	20	0	0	0	3	0	0	11	2	269	59
60	408	485	533	148	175	192	4	5	5	40	47	52	8	9	10	608	723	192	60
61	0	0	10	0	0	10	0	0	10	2	0	10	4	0	0	6	0	314	61
62	0	0	0	2	9	36	0	0	0	0	0	0	1	5	20	3	14	100	62
63	0	0	0	0	0	50	0	0	0	0	0	0	0	0	25	0	0	8	63
64	0	0	0	1	0	0	0	0	0	0	0	0	4	0	0	5	0	88	64
65	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2	0	22	65
66	0	0	0	1	7	6	0	0	0	0	0	0	2	14	13	3	22	45	66
67	0	0	0	1	1	1	2	2	2	0	0	0	9	4	4	12	7	369	67
68	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	445	68
69	5	0	0	2	0	0	0	0	0	0	0	0	1	0	0	8	0	74	69
70	61	47	52	0	0	0	0	0	0	0	0	0	2	2	2	63	49	124	70
71	0	0	0	2	8	9	0	0	0	0	0	0	37	150	165	39	158	342	71
72	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	371	72
73	0	0	0	0	0	0	0	0	0	0	0	0	6	137	125	6	137	345	73
74	26	19	76	13	10	40	0	0	0	0	0	0	0	0	0	39	29	302	74
75	10	46	55	5	23	28	0	0	0	7	32	0	24	111	133	46	213	410	75
76	478	215	258	27	12	14	17	8	10	39	17	10	25	11	13	586	264	507	76
77	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	286	77
78	0	0	0	19	3	4	3	0	0	0	0	0	6	0	0	28	3	122	78
79	0	0	0	0	0	0	0	0	0	0	0	0	11	1	5	11	1	47	79
80	0	0	0	0	0	0	0	0	0	1	0	0	3	0	0	4	0	182	80
81	541	223	245	142	59	65	70	28	31	27	11	31	47	19	21	827	341	175	81
82	41	150	135	112	409	368	61	223	200	0	0	200	54	197	177	268	981	269	82
83	0	0	0	0	0	0	0	0	0	17	10	0	25	15	13	42	26	266	83
84	766	872	698	37	42	34	2	2	1	5	6	1	5	6	5	815	928	267	84
85	130	0	200	1	0	25	1	0	25	0	0	25	3	0	25	135	0	92	85
86	310	450	900	8	11	22	16	23	46	0	0	0	53	77	154	387	563	100	86
87	120	254	635	117	247	617	0	0	0	0	0	0	0	0	0	237	502	32	87
88	99	528	1584	0	0	0	5	26	78	0	0	0	1	1	3	105	560	128	88
89	10	24	72	6	14	42	0	0	0	2	5	18	16	38	114	34	82	550	89
90	312	1339	2008	1	5	7	0	0	0	0	0	0	73	313	470	386	1657	192	90
91	24	19	17	16	12	11	0	0	0	0	0	0	9	7	6	49	39	331	91
92	126	225	337	205	366	549	164	293	440	15	26	39	66	118	177	576	1031	53	92
93	0	0	0	1	2	1	0	0	0	1	2	1	4	8	6	6	14	214	93
94	0	0	0	4	2	6	0	0	0	0	0	0	6	1	3	10	3	187	94
95	0	0	5	0	0	0	0	0	0	2	0	0	3	0	0	5	0	285	95
96	4	0	10	4	0	0	0	0	0	0	0	0	0	0	0	8	0	65	96
97	0	0	5	0	0	0	1	0	0	0	0	0	2	0	0	3	0	165	97

APPENDIX A FIGURE A-1

TRIP LENGTH FREQUENCIES

TRIP PURPOSE	DAILY TRIPS	HOURS	AVERAGE TRIP LENGTH IN MINUTES
HOME BASED WORK	51,139	6,892	8.09
OTHER HOME BASED	123,181	15,284	7.44
NON-HOME BASED	78,195	7,890	6.05
EXTERIOR-INTERIOR	115,534	16,911	8.78



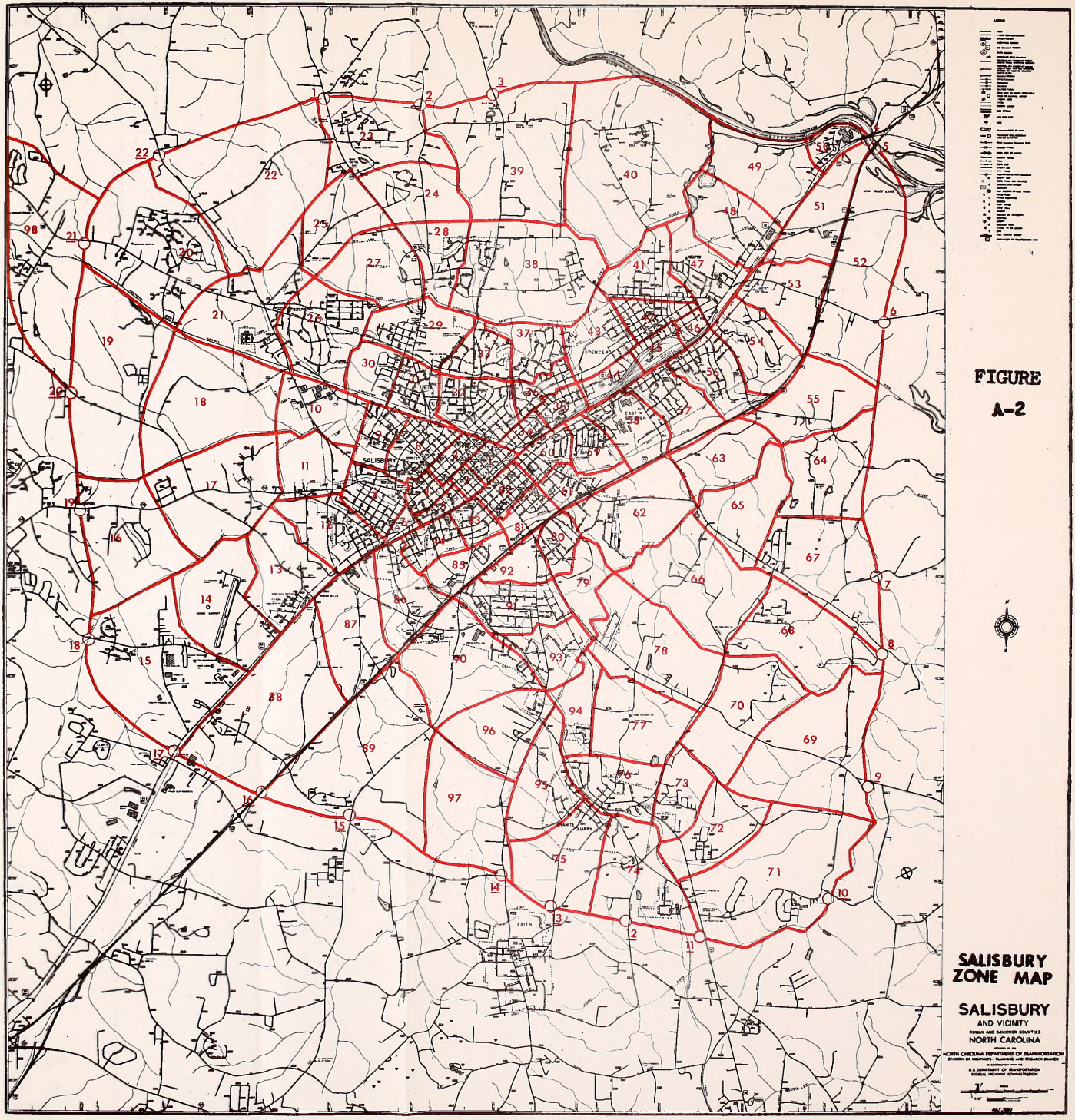


FIGURE
A-2

SALISBURY
ZONE MAP

SALISBURY
AND VICINITY
ROWAN AND DAVIDSON COUNTIES
NORTH CAROLINA

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS - PLANNING AND RESEARCH BRANCH

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

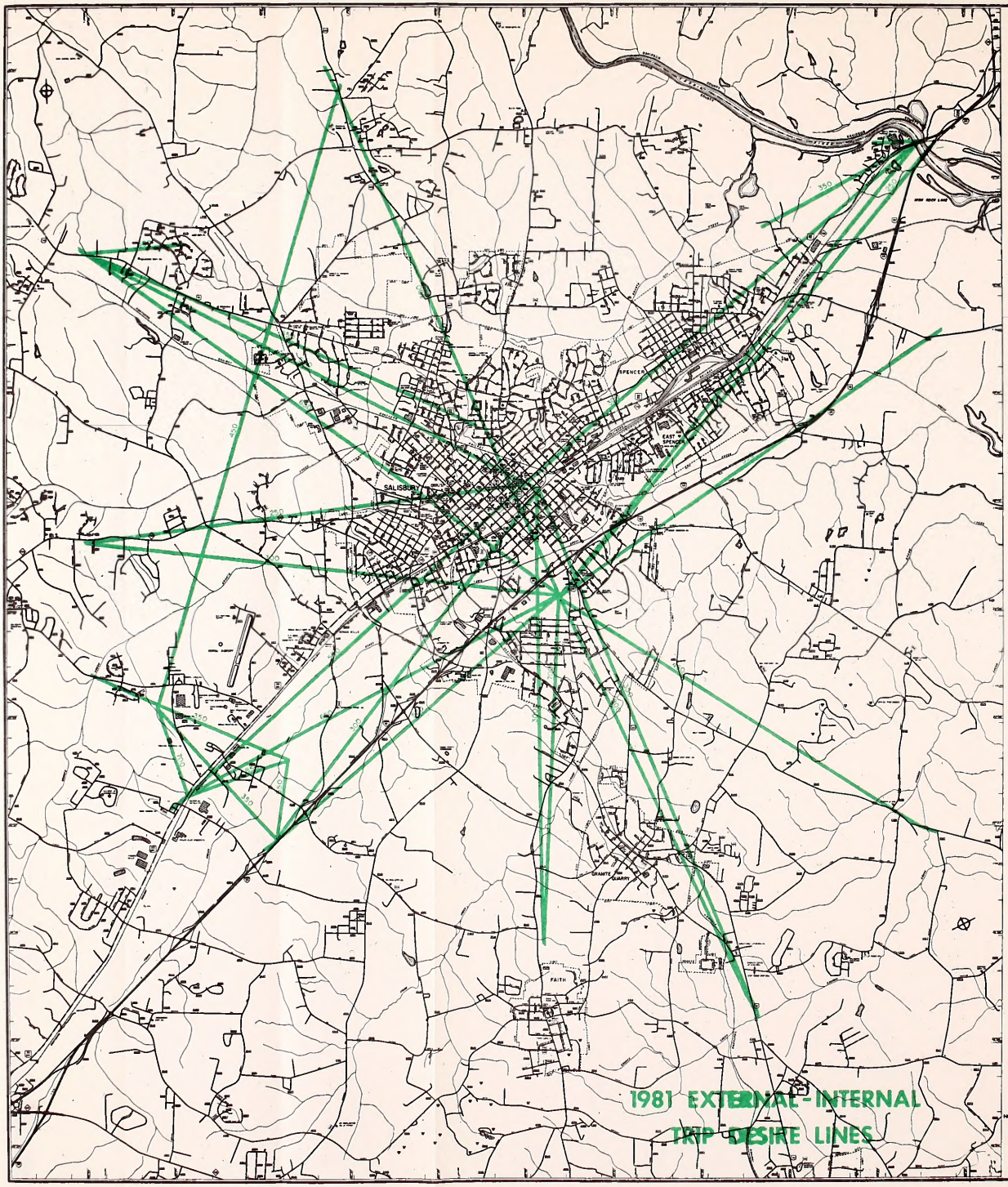


FIGURE
A-3

SALISBURY
AND VICINITY
ROWAN AND DAVIDSON COUNTIES
NORTH CAROLINA

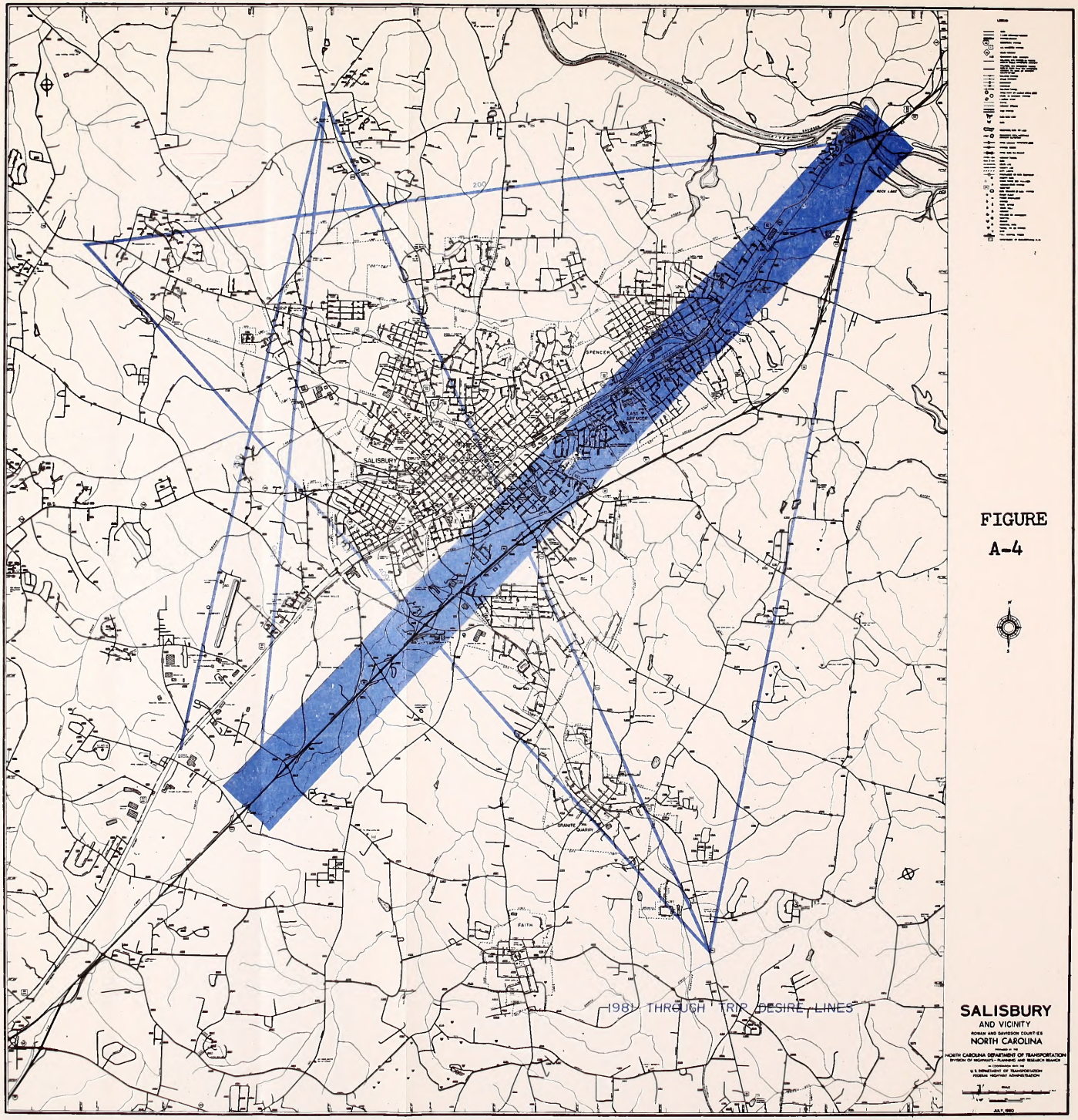

SALISBURY
SPENCER
EAST SPENCER
GRANITE QUARRY
FAITH
1981 THROUGH TRIP DESIRE LINES
SALISBURY
AND VICINITY
ROWAN AND DAVIDSON COUNTIES
NORTH CAROLINA
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS - PLANNING AND RESEARCH BRANCH
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
JULY, 1980

FIGURE
A-4

APPENDIX B

RECOMMENDED DEFINITIONS AND DESIGN STANDARDS FOR SUBDIVISION ORDINANCES

DEFINITIONS:

I. Streets and Roads:

A. Rural Roads

1. Principal Arterial - A rural link in a network of continuous routes serving corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel and existing solely to serve traffic. This network would consist of Interstate routes and other routes designated as principal arterials.

2. Minor Arterial - A rural link in a network joining cities and larger towns and providing intrastate and intercounty service at relatively high overall travel speeds with minimum interference to through movement.

3. Major Collector - A road which serves major intracounty travel corridors and traffic generators and provides access to the Arterial system.

4. Minor Collector - A road which provides service to small local communities and links the locally important traffic generators with their rural hinterland.

5. Local Road - A local road that serves primarily to provide access to adjacent land and for travel over relatively short distances.

B. Urban Streets

1. Major Thoroughfares - Major thoroughfares consist of Interstate, other freeway, expressway, or parkway links, and major streets that provide for the expeditious movement of high volumes of traffic within and through urban areas.

2. Minor Thoroughfares - Minor thoroughfares are important streets in the city system and perform the function of collecting traffic from local access streets and carrying it to the major thoroughfare system. Minor thoroughfares may be used to supplement the major thoroughfare system by facilitating a minor through-traffic movement and may also serve abutting property.

3. Local Street - A local street is any link not on a higher-order urban system and serves primarily to provide direct access to abutting land and access to higher systems.

C. Specific Type Rural or Urban Streets

1. Freeway, expressway, or parkway - Divided multilane roadways designed to carry large volumes of traffic at relatively high speeds. A freeway is a divided highway providing for continuous flow of vehicles with no direct access to abutting property or streets and with access to selected crossroads provided via connecting ramps. An expressway is a divided highway with full or partial control of access and generally with grade separations at major intersections. A parkway is a highway for noncommercial traffic, with full or partial control of access, and usually located within a park or a ribbon of parklike development.

2. Residential Collector Street - A local access street which serves as a connector street between local residential streets and the thoroughfare system. Residential collector streets typically collect traffic from 100 to 400 dwelling units.

3. Local Residential Street - Cul-de-sacs, loop streets less than 2,500 feet in length, or streets less than one mile in length that do not connect thoroughfares, or serve major traffic generators, and do not collect traffic from more than 100 dwelling units.

4. Cul-de-sac - A short street having but one end open to traffic and the other end being permanently terminated and a vehicular turn around provided.

5. Frontage Road - A local street or road that is parallel to a full or partial access controlled facility and functions to provide access to adjacent land.

6. Alley - A strip of land, owned publicly or privately, set aside primarily for vehicular service access to the back side of properties otherwise abutting on a street.

II. Property

A. Building Setback Line - A line parallel to the street in front of which no structure shall be erected.

B. Easement - A grant by the property owner for use by the public, a corporation, or person(s), of a strip of land for a specific purpose.

C. Lot - A portion of a subdivision, or any other parcel of land, intended as a unit for transfer of ownership or for development or both. The word "lot" includes the words "plat" and "parcel".

1. Corner Lot - A lot abutting upon two streets at their intersection.

2. Double-Frontage Lot - A continuous (through) lot which is accessible from both of the parallel streets upon which it fronts.

3. Reverse-Frontage Lot - A continuous (through) lot which is accessible from only one of the parallel streets upon which it fronts.

III. Subdivision

A. Subdivider - Any person, firm, corporation or official agent thereof, who subdivides or develops any land deemed to be a subdivision.

B. Subdivision - All divisions of a tract or parcel of land into two or more lots, building sites, or other divisions for the purpose, whether immediate or future, of sale or building development, and all divisions of land involving the dedication of a new street or a change in existing streets; provided, however, that the following shall not be included within this definition nor subject to these regulations: (1) the combination or recombination of portions of previously platted lots where the total number of lots is not increased

and the resultant lots are equal to or exceed the standards contained herein; (2) the division of land into parcels greater than five acres where no street right-of way dedication is involved; (3) the public acquisition by purchase of strips of land for the widening or opening of streets; (4) the division of a tract in single ownership whose entire area is no greater than two acres into not more than three lots, where no street right-of-way dedication is involved and where the resultant lots are equal to or exceed the standards contained herein.

C. Dedication - A gift, by the owner, of his property to another party without any consideration being given for the transfer. Since a transfer of property is involved, the dedication is made by written instrument and is completed with an acceptance.

D. Reservation - A reservation of land does not involve any transfer of property rights. It simply constitutes an obligation to keep property free from development for a stated period of time.

Design Standards

I. Streets and Roads:

The design of all streets and roads within _____ shall be in accordance with the accepted policies of the North Carolina Department of Transportation, Division of Highways, as taken or modified from the American Association of State Highway Officials' (AASHO) manuals.

The provision of street rights-of-way shall conform and meet the requirements of the thoroughfare plan for _____ as adopted by the _____ and the North Carolina Department of Transportation.

The proposed street layout shall be coordinated with the existing street system of the surrounding area. Normally the proposed streets should be the extension of existing streets if possible.

The urban planning area shall consist of that area within the urban planning boundary as depicted on the mutually adopted _____ Thoroughfare Plan. The rural planning area shall be that area outside the urban planning boundary.

A. Right-of-Way Widths: Right-of-way widths shall not be less than the following and shall apply except in those cases where right-of-way requirements have been specifically set out in the Thoroughfare Plan.

		Min. Right of Way, Ft.
1.	Rural	
a.	Principal Arterial	
	Freeways	350
	Other	200
b.	Minor Arterial	100
c.	Major Collector	100
d.	Minor Collector	100
e.	Local Road	*60

*The desirable minimum right-of-way is 60 feet. If curb and gutter is provided, 50 feet of right-of-way is adequate on local residential streets.

		Min. Right of Way, Ft.
2.	Urban	
a.	Major Thoroughfare Other than Freeway and Expressway	90
b.	Minor Thoroughfare	70
c.	Local Street	*60
d.	Cul-de-sac	**Variable

The subdivider will only be required to dedicate a maximum of 100 feet of right-of-way. In cases where over 100 feet of right-of-way is desired, the subdivider will be required only to reserve the amount in excess of 100 feet. In all cases in which right-of-way is sought for an access controlled facility, the subdivider will only be required to make a reservation.

A partial width right-of-way, not less than sixty (60) feet in width, may be dedicated when adjoining undeveloped property that is owned or controlled by the subdivider; provided that the width of a partial dedication be such as to permit the installation of such facilities as may be necessary to serve abutting lots. When the said adjoining property is subdivided, the remainder of the full required right-of-way shall be dedicated.

B. Street Widths: Widths for street and road classifications other than local shall be as required by the Thoroughfare Plan. Width of local roads and streets shall be as follows:

1. Local Residential
   Curb and gutter section 26 feet, to face of curb
   Shoulder section - 20 feet to edge of pavement, 4 foot shoulders

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*The desirable minimum right-of-way is established as 60 feet. If curb and gutter is provided, 50 feet of right-of-way is adequate.

**The right-of-way dimension will depend on radius used for vehicular turn-around. Distance from edge of pavement of turn around to right-of-way should not be less than distance from edge of pavement to right-of-way on street approaching turn-around.

2. Residential Collector
   Curb and gutter section 34 feet, face to face of curb
   Shoulder Section 20 feet to edge of pavement, 6 foot shoulders

C. Geometric Characteristics: The standards outlined below shall apply to all subdivision streets proposed for addition to the State Highway System or Municipal Street System. In cases where a subdivision is sought adjacent to a proposed thoroughfare corridor, the requirements of dedication and reservation discussed under Right-of-Way shall apply.

1. Design Speed

The design speeds for subdivisions type streets shall be:

	Desirable	(Minimum)		
		Level	Rolling	Mountainous
Rural				
Minor Collector Roads	60	(50)	(40)	(30)
Local Roads including Residential Collectors and Local Residential	50	(50)*	(40)*	(30)*
Urban				
Major Thoroughfares Other than Freeway or Expressway	60	(50)	(50)	(50)
Minor Thoroughfares	60	(50)	(40)	(40)
Local Streets	40	(40)**	(30)**	(20)**

---

*Based on projected annual average daily traffic of 400-750. In cases where road will serve a very limited area and small number of dwelling units, minimum design speeds can be reduced further.

**Based on projected annual average daily traffic of 50-250.

2. Maximum and Minimum Grades

a. The maximum grades in percent shall be:

Design Speed	Level	Rolling	Mountainous
60	3	4	6
50	4	5	7
40	5	6	8
30		9	10
20			12

b. A minimum grade for curbed streets normally should not be less than 0.5%, a grade of 0.35% may be allowed where there is a high type pavement accurately crowned and in areas where special drainage conditions may control.

c. Grades for 100 feet each way from intersections should not exceed 5%.

d. For streets and roads with projected annual average daily traffic less than 250, short grades less than 500 feet long, may be 150% greater.

3. Minimum Sight Distances

In the interest of public safety, no less than the minimum sight distance applicable shall be provided in every instance. Vertical curves that connect each change in grade shall be provided and calculated using the following parameters. (General practice calls for vertical curves to be multiples of 50 feet. Calculated lengths shall be rounded up in each case):

Design Speed, MPH	20	30	40	50	60
Stopping Sight Distance -					
Min. Distance, Ft.	150	200	275	350	475
Des. Distance, Ft.	150	200	300	450	650
Min. K* Value For:					
Min. Crest Curve	16	28	55	85	160
Des. Crest Curve	16	28	65	145	300
Min. SAG Curve	24	35	55	75	105
Des. SAG Curve	24	35	60	100	155
Passing Sight Distance -					
Min. Passing Distance, Feet (2 lane)		1100	1500	1800	2100
Min. K* Value For Crest Vertical Curve		365	686	985	1340

Sight distance provided for stopped vehicles at intersections should be in accordance with, "A Policy on Geometric Design of Rural Highways".

4. The following table shows the maximum degree of curve and related maximum superelevation for design speeds. The maximum rate of roadway superelevation (e) for rural roads wth no curb and gutter is .08. The maximum rate of superelevation for urban streets with curb and gutter is .06 with .04 being desirable.

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*K is a coefficient by which the algebraic difference in grade may be multiplied to determine the length in feet of the vertical curve which will provide minimum sight distance.

Design Speed MPH	Maximum e*	Minimum Radius (Rounded) Feet	Maximum Degree of Curve (Rounded) Degrees
20	.04	125	45.0
30	.04	300	19.0
40	.04	560	10.0
50	.04	925	6.0
60	.04	1410	4.0
20	.06	115	50.0
30	.06	275	21.0
40	.06	510	11.5
50	.06	830	7.0
60	.06	1260	4.5
20	.08	110	53.5
30	.08	250	23.0
40	.08	460	12.5
50	.08	760	7.5
60	.08	1140	5.0

*e = rate of roadway superelevation, foot per foot

D. Intersections

1. Streets shall be laid out so as to intersect as nearly as possible at right angles, and no street should intersect any other street at an angle less than sixty (60) degrees.

2. Property lines at intersections should be set so that the distance from the edge of pavement, of the street turnout, to the property line will be at least as great as the distance from the edge of pavement to the property line along the intersecting streets. This property line can be established as a radius or as a sight triangle. Greater offsets from the edge of pavement to the property lines will be required, if necessary, to provide sight distance for the stopped vehicle on the side street.

3. Off-set intersections are to be avoided unless exception is granted by the Divison of Highways for intersections involving the State Highway System, or the Planning Board for intersections involving only the municipal street system. Intersections which cannot be aligned should be separated by a minimum length of 200 feet between survey centerlines.

E. Cul-de-sacs

Cul-de-sacs, unless exception is granted by the local planning board, shall not be more than five hundred (500) feet in length. The distance from the edge of pavement on the vehicular turnaround to the right-of-way line should not be less than the distance from the edge of pavement to right-of-way line on the street approaching the turn-around. Cul-de-sacs should not be used to avoid connection with an existing street or to avoid the extension of an important street.

F. Alleys

1. Alleys shall be required to serve lots used for commercial and industrial purposes except that this requirement may be waived where other definite and assured provision is made for service access.

   Alleys shall not be provided in residential subdivisions unless necessitated by unusual circumstances.

2. The width of an alley shall be at least twenty (20) feet.

3. Dead-end alleys shall be avoided where possible, but if unavoidable, shall be provided with adequate turn-around facilities at the dead-end as may be approved by the Planning Board.

4. Sharp changes in alignment and grade shall be avoided.

G. Permits For Connection To State Roads

An approved permit is required for connection to any existing state system road. This permit is required prior to any construction on the street or road. The application is available at the office of the nearest District Engineer of the Divison of Highways.

H. Offsets To Utility Poles

Poles for overhead utilities should be located clear of roadway shoulders, preferably a minimum of at least 30 feet from the edge of pavement. On streets with curb and gutter, utility poles shall be set back a minimum distance of 6 feet from the face of curb.

I. Wheel Chair Ramps

In accordance with Chapter 136, Article 2A, §136-44.14, all street curbs in North Carolina being constructed or reconstructed for maintenance purposes, traffic operations, repairs, correction of utilities, or altered for any reason after September 1, 1973, shall provide wheelchair ramps for the physically handicapped at all intersections where both curb and gutter and sidewalks are provided and at other major points of pedestrian flow.

Wheelchair ramps and depressed curbs shall be constructed in accordance with details contained in the Department of Transportation, Divison of Highways, Publication entitled, "Guidelines, Curb Cuts and Ramps for Handicapped Persons".

J. Horizontal Width on Bridge Deck

1. The clear roadway widths for new and reconstructed bridges serving 2 lane, 2 way traffic should be as follows:

   a. Shoulder Section Approach

      i. Under 800 ADT Design Year

         Minimum 28 feet width face to face of parapets of rails or pavement width plus 10 feet, whichever is greater.

      ii. 800-2000 ADT Design Year

         Minimum 34 feet width face to face of parapets or rails or pavement width plus 12 feet, whichever is greater.

      iii. Over 2000 ADT Design Year

         Minimum 40 feet
         Desirable 44 feet width face to face of parapets or rails.

   b. Curbs and Gutter Approach

      i. Under 800 ADT Design Year

         Minimum 24 feet face to face of curbs.

ii. Over 800 ADT Design Year

Width of approach pavement measured face to face of curbs.

Where curb and gutter sections are used on roadway approaches, curbs on bridges shall match the curbs on approaches in height, in width of face to face of curbs, and in crown drop. The distance from face of curb to face of parapet or rail shall be 1'6" minimum, or greater if sidewalks are required.

2. The clear roadway widths for new and reconstructed bridges having 4 or more lanes serving undivided two-way traffic should be as follows:

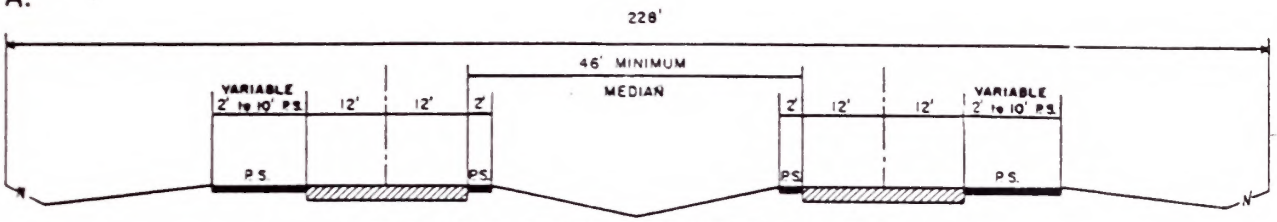
   a. Shoulder Section Approach - Width of approach pavement plus width of usable shoulders on the approach left and right.
   Min. 8'
   Des. 10'

   b. Curb and Gutter Approach - Width of approach pavement measured face to face of curbs.

TYPICAL THOROUGHFARE CROSS SECTIONS

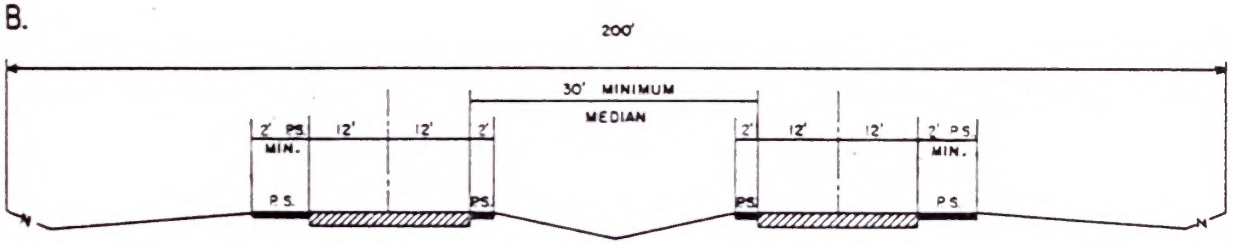
APPENDIX C--FIGURE 1

A.



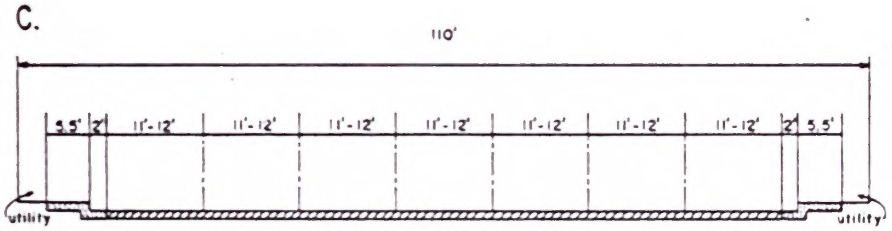
FOUR LANES DIVIDED WITH MEDIAN - FREEWAY

B.



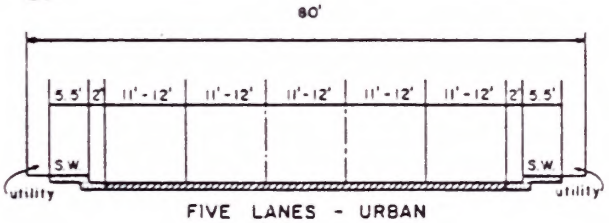
FOUR LANES DIVIDED WITH MEDIAN - RURAL

C.



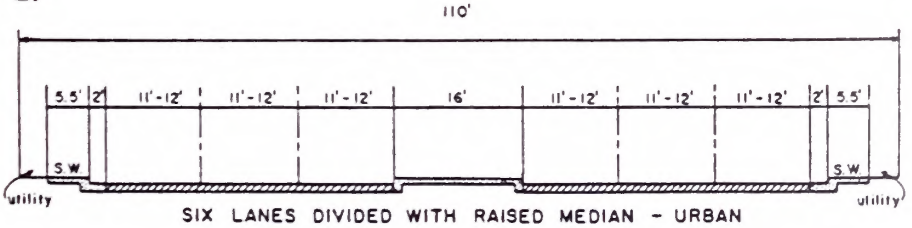
SEVEN LANES - URBAN

D.



FIVE LANES - URBAN

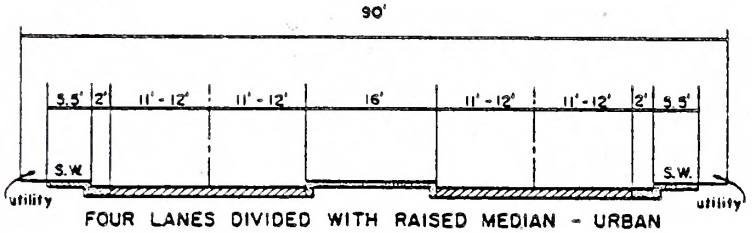
E.



SIX LANES DIVIDED WITH RAISED MEDIAN - URBAN

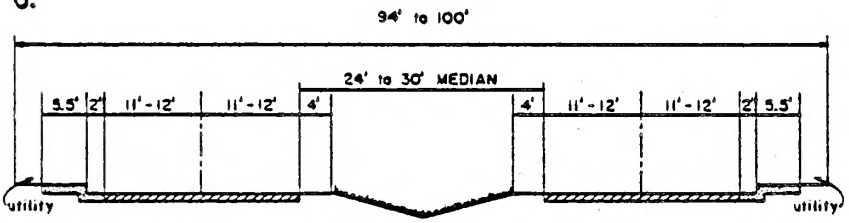
TYPICAL THOROUGHFARE CROSS SECTIONS
(CONTINUED)

F.



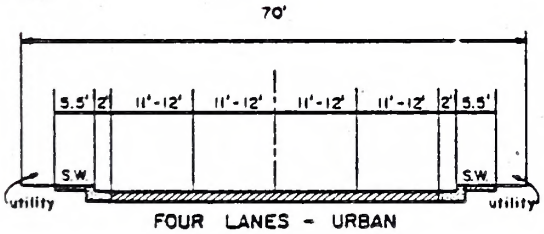
FOUR LANES DIVIDED WITH RAISED MEDIAN - URBAN

G.



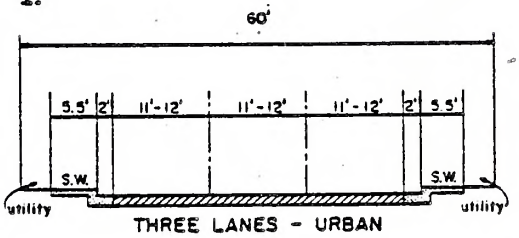
FOUR LANES DIVIDED - URBAN BOULEVARD
GRASS MEDIAN

H.



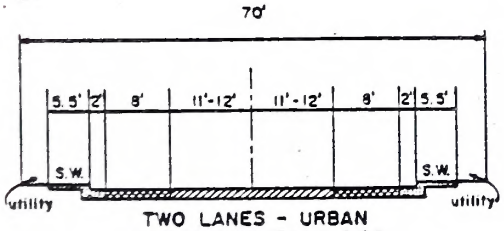
FOUR LANES - URBAN

I.



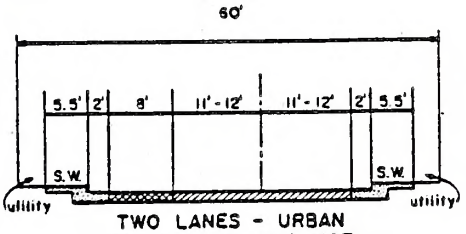
THREE LANES - URBAN

J.



TWO LANES - URBAN
PARKING ON EACH SIDE

K.



TWO LANES - URBAN
PARKING ON ONE SIDE

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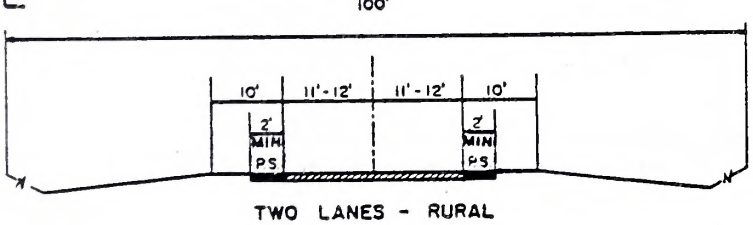

TWO LANES - RURAL

APPENDIX C TABLE

THOROUGHFARE PLAN STREET TABULATION AND RECOMMENDATIONS

FACILITY & SECTION	DIST MI	EXISTING X-SECTION RDWY FT	EXISTING X-SECTION ROW FT	CAPACITY (FUTURE) CURRENT	CAPACITY (FUTURE) 1981 ADTS	CAPACITY (FUTURE) 2005 ADTS	RECOMMENDED X-SECTION RDWY (ULT)	RECOMMENDED X-SECTION ROW (ULT)
ANN STREET								
(SEE OUTER LOOP)								
ANDREW ST (SEE SR 1915)								
BOUNDRY ST EXT-BOUNDRY ST								
HENDERSON-SR 2120	1.70	-	-	(10000)	-	2000	J	70
E OF CURRELL-HENDERSON	0.42	20-SUIL	50	5200	-	2000	J	70
LAUREL-EAST OF CURRELL	0.80	-	-	(10000)	-	2000	J	70
BRYCE-LAUREL	0.18	18-SUIL	50	4600	-	2500	J	70
INNER CITY EXPRESSWAY-BRYCE	0.05	-	-	(10000)	-	2500	J	70
INNER CITY EXPRESSWAY-BRINGLEFERRY	1.50	-	-	(10000)	-	3000	J	70
COUNCIL-BRINGLE FERRY	0.52	25	45-50	9000	4000	4000		
INNES-COUNCIL	0.10	34	45-50	9900	4000	6000		
BANK-INNES	0.20	54	45-50	6600	-	6000		
CONCORD-BANK	0.15	54	45-50	5000	-	6000		
CHERRY - CONCORD	0.12	54	50	5300	-	4000		
BRENNER AVENUE								
STATESVILLE-HEDRICK	0.41	25	50	10000	7000	12000		
HEDRICK-HORAH	0.20	34-43	50	14800	4000	10000		
HORAH-WILKSBORO	.15	52	50	(20000)	-	9000		
WILKSBORO-SALISBURY BLD	.70	-	-	(20000)	-	5000	H	70
BRINGLE FERRY ROAD								
LONG-SHAVER ST	0.08	40	50	18000	3100	5500		
SHAVER-NEWSOME RD	0.90	28	50	10000	2500	4000		
NEWSOME-UNION CH(2132)	3.86	24-28	80	8000	2400	7200		
CEMETERY STREET								
LEE-MAIN	0.10	34	45-50	6300	-	2400		
MAIN-CHURCH	0.10	25	45-50	6000	-	2400		
CHURCH-JACKSON	0.10	25	45-50	5300	-	2400		
CLUB HOUSE DRIVE (SR 1910)								
CONFEDERATE-ELEVENTH	0.41	24	50	10000	3400	5500		
CONCORD ROAD (SR 1002)								
LONG-BOUNDARY	0.30	52	60		5000	10000	H	70
BOUNDARY- MYRON	0.22	18	60		5000	10000	H	70
MYRON-KLUMAC	0.87	18	60		4000	8000		
KLUMAC-JULIAN HEILIG	1.20	18-24	60		4000	6000		
JULIAN HEILIG-PEELER	1.72	24	60		4000	5000		
CONFEDERATE AVE (SR1910)								
MOCKSVILLE-CLUB HOUSE	0.40	30	70	10000	6500	8500		
CORRELL STREET (SR 2114)								
LONG-BRINGLE FERRY	1.60	16-18	60	8000	3200	4500		
DUNHAM BOULEVARD								
(SEE OUTER LOOP)								

FACILITY & SECTION	DIST MI	EXISTING X-SECTION RDWY FT	ROW FT	CAPACITY CURRENT (FUTURE)	1981 ADTS	2005 ADTS	RECOMMENDED X-SECTION RDWAY (ULT)	ROW (ULT)
EARNHARDT RD.								
SR 1004-OUTER LOOP	0.80	25	60	10000	-	2200		
ELEVENTH STREET								
CLUB HOUSE-LONG	0.43	24	50	10000	-	3500		
FAITH ROAD (SR 1006)								
INNES ST-ROSE AVE EXT	1.00	24	60	8000	7000	14000	F	90
ROSE AVE EXT-ST PAULS CHURCH RD(2529)	3.10	24	60	8000	4200	7800		
FULTON STREET								
HENDERSON-INNIS	2.00	25-33	45-50	12500	1000	4000		
GOLD HILL DRIVE								
CONCORD-FAITH	0.90	16	50	3000	1900	-		
HARRISON RD (SR 1710)								
SR 1526-WOODLEAF	2.10	20	60	5300	2500	3000		
HARRISON STREET								
LINCOLNTON-FULTON	0.10	14	20	3700	800	1000		
FULTON-MAIN	0.30	30	50	6700	800	1000		
HEILIG RD. (SEE SR 2528)								
HOPKINS STREET								
CHERRY-RYAN	0.35	25	50	5300	2000	4000		
HORAH STREET								
LONG-ELLIS	0.70	25	45-50	6600	2000	2500		
ELLIS-BRENNER	1.12	25-34	45-50	7000	2000	3500		
INNES STREET								
I-85 - TOWN CREEK	0.14	56-66	100	25000	22000	36000	D	80
TOWN CREEK-SHAVER ST	0.45	64	80-100	25000	22000	32000	D	80
SHAVER-LEE	0.22	60	80	25000	22000	32000	D	80
LEE-CHURCH	0.19	66	99	25000	17000	27000	D	80
CHURCH-INSTITUTE	0.66	48-52	60-80	25000	17000	31000		
INSTITUTE-ACKERT	0.27	40-52	50-80	25000	14000	32000		
ACKERT-FAIRSON	0.35	40	60	20000	15000	33000		
FAIRSON-STATESVILLE	0.06	60	80	25000	17000	33000		
STATESVILLE-LILLY	0.05	60	80	25000	17000	33000		
LILLY-SR 1939	1.20	28-50	60	20000	7000	18000	F	90
SR 1939-US 601	0.38	22	60	10000	4600	5800		
INNER CITY EXPRESSWAY								
I-85 - LONG	1.00	-	-	20000	-	10000	F	90
LONG-CALDWELL	0.80	-	-	20000	-	18000	F	90
CALDWELL-OLD INNES	0.51	-	-	20000	-	22000	F	90
OLD INNES-BRENNER	0.48	-	-	20000	-	13000	F	90
BRENNER-WOODLEAF	1.35	-	-	20000	-	7000	F	90
INTERSTATE 85								
ROWAN CO. LINE-SOUTH OF SALISBURY	10.25	48	260	50000	24000	44000		

FACILITY & SECTION	EXISTING DIST MI	X-SECTION RDWY FT	ROW FT	CAPACITY CURRENT (FUTURE)	1981 ADTS	2005 ADTS	RECOMMENDED X-SECTION RDWAY (ULT)	ROW (ULT)
JACKSON STREET								
HARRISON-CEMETERY	1.10	25	45-50	20000	3600	5200		
CEMETERY-HENDERSON	0.40	-	-	(10000)	-	6000	J	70
HENDERSON-17TH	1.68	25-36	50	10000	2600	3300		
JEFFERSON ST (SEE SR 1915)								
JULIAN RD (SEE SR 2528)								
KERR STREET								
LONG-ELLIS	0.67	25-26	45-50	6000	3000	6400		
LINCOLNTON RD (SR 1700)								
FULTON-NC 150	1.45	25-35	45-50	8000	5900	7500		
LONG FERRY RD (SR 2120)								
LONG - I-85	0.75	18-20	60	7000	4300	7000		
EAST OF I-85	0.75	18	60	8000	3300	8000		
LONG STREET								
CONCORD-COUNCIL	0.48	48-64	80	20000	-	8600		
COUNCIL-BRINGLE FERRY	0.48	32	50	12000	-	7000		
BRINGLEFERRY-LONGFERRY	3.28	32	50	12000	-	10000		
MAHALEY AVENUE								
INNES-MOCKSVILLE	0.70	40	60	19000	-	9200		
MAIN STREET								
SEVENTEENTH-KNOX	2.42	50-66	80-99	20000	10000	18000		
KNOX-VANCE	0.25	25-35	50	(12000)	10000	19000	H	70
VANCE-A AVE	0.30	38	50	(18000)	8000	22000	H	70
A AVE -SR 2538	3.30	24-36	50-100	(12000)	11000	26000	H	70
MILFORD HILLS RD (SR 1702)								
LINCOLNTON-WOODLEAF	0.68	18	60	11000	-	3000		
MOCKSVILLE AVENUE								
CEMETERY-BARKER	0.40	25	60	(20000)	7000	12000	H	70
BARKER-CONFEDERATE	0.10	32	60	(20000)	7000	12000	H	70
MOCKSVILLE RD (SR 1910)								
CONFEDERATE-HENDERSON	0.35	36	60	14000	4700	8500		
HENDERSON-N OF SR 1915	2.90	18	60	(10000)	1700	4400	L	100
MONROE STREET (SR 1703)								
CONCORD-LEE	0.18	36	60	14000	2000	4000		
LEE-MAIN	0.10	25	45-50	10000	1600	3000		
MAIN-CHURCH	0.10	34	45-50	12000	1600	3000		
CHURCH-MESSNER	1.20	25	45-50	10000	-	2600		
MESSNER-BRENNER	.04	40	80					

FACILITY & SECTION	DIST MI	EXISTING X-SECTION RDWY FT	ROW FT	CAPACITY CURRENT (FUTURE)	1981 ADTS	2005 ADTS	RECOMMENDED X-SECTION RDWAY (ULT)	ROW (ULT)
MORLAN PARK ROAD								
GOLD HILL-FAITH	1.25	19	50	8000	-	4000		
NC 150								
MAIN-LINCOLNTON	1.10	22	100	(20000)	4200	14000	F	90
LINCOLNTON-ROWAN MILL	-	22	100	(20000)	4000	11000	F	90
ROWAN MILL-SR 1514	-	22	100	(9000)	-	10000		
NEWSOME ROAD								
STOKESFERRY-BRINGLE FERRY	0.96	18	40	8000	-	2000		
PEACH ORCHARD-ST.PAUL CHURCH RD								
AIRPORT EXT- I-85	0.44	24	60	(10000)	-	9000	L	100
I-85 -SR 2611	0.60	16	60	(10000)	-	1400	L	100
SR 2611-CONCORD RD	0.45	16	60	(10000)	-	1400	L	100
CONCORD-SR 1006	1.90	18	60	(10000)	-	1400	L	100
OUTER LOOP								
CONCORD-RAILROAD AVE	0.42	24	80	(20000)	-	19000	F	90
RAILROAD AVE-MORLAN PK	0.05	-	-	(20000)	-	19000	F	90
MORLAN PK-FAITH	0.73	20	60	(20000)	-	17000	F	90
FAITH-US 52	0.19	-	-	(20000)	-	11000	F	90
US 52-SR 2126	0.80	-	-	(10000)	-	5000	L	100
SR 2126-RELOCATED US52	0.70	25	60	(10000)	-	6000	L	100
RELOCATED US52-SR 1002	0.70	25	60	(10000)	-	7000	L	100
SR 1002-SR 2120	3.10	-	-	(10000)	-	2000	L	100
LONG-SALISBURY AVE	0.15	-	-	(10000)	-	6000	L	100
MAIN-ROWAN AVE EXT. (ANN STREET)	0.38	30-SOIL	60	(10000)	-	6000	L	100
ROWAN EXT.-SR 1914	0.98	-	-	(10000)	-	6000	L	100
SR1914-MOCKSVILLE	0.95	18	60	(10000)	-	5000	L	100
MOCKSVILLE-US 70	3.45	-	-	(10000)	-	4000	L	100
ROWAN AVENUE								
17TH-SPRING HILL	0.40	16-22	60	7000	-	3000		
SPRING HILL-SIXTH	0.60	18	60	7000	-	3000		
SIXTH-JEFFERSON	0.70	26	60	10000	-	3000		
RYAN STREET								
KIRK-PARRISH	0.10	20	30-40	-	-	2500		
PARRISH-HOPKINS	0.10	25	40	-	-	2500		
HOPKINS-CONCORD		18	60					
SALISBURY AVE (US 29-70)								
17TH - HENDERSON	1.80	50-60	-	20000	10000	15000		
HENDERSON-NCL SPENCER	0.92	44-46	-	20000	8400	12000		
NCL - DAVIDSON CO.	1.74	42-60	100-150	20000	5000	10000		
SALISBURY BLVD								
MAIN-I-85	1.17	24	60	10000	-	2500		
I-85-CONCORD	0.41	52-68	80-100	30000	-	23000		
SEVENTH STREET (SR 1912)								
SALISBURY-YADKIN	0.10	24	60	10000	-	500		
YADKIN-CAROLINA	0.20	18	60	8000	-	500		
CAROLINA-BALDWIN	0.40	24	60	10000	-	1000		
BALDWIN-SR 1914	0.70	18	60	8000	-	2000		
SR 1516(AIRPORT RD)								
PEACH-US 29	0.90	-	-	(10000)	-	7000	L	100
US 29-SR 1514	2.90	20	60	10000	1500	10000		

FACILITY & SECTION	DIST MI	EXISTING X-SECTION RDWY FT	ROW FT	CAPACITY CURRENT (FUTURE)	1981 ADTS	2005 ADTS	RECOMMENDED X-SECTION RDWAY (ULT)	ROW (ULT)
SR 1526(ROWAN MILL)								
SR 1731-NC 150	2.10	18-20	60	9000	-	4500		
NC 150-US 29-601	1.45	16-18	60	8000	950	3000	L	100
US 29-601 - SR 2539	3.10	16-20	60	8000	-	1500	L	100
SR 1560(CEDAR SPRINGS RD)								
US 29-SR 1516 (AIRPORT)	1.05	20	60	10000	-	2000		
SR 1710 (HARRISON RD)								
SR 1526-WOODLEAF	1.98	18-20	60	10000	2500	6500		
SR 1712(SALISBURY BLVD)								
US 70-US 601	1.86	36	60	14000	2200	3500		
SR 1722 (MAJOLICA RD)								
US 70-SR 1526	1.75	16	60	7000	2600	4500	L	100
SR 1911 (SELLS RD)								
US 601-NORTH SR 1915	2.98	18	60	8000	1500	2000		
NORTH SR 1915-US 601	2.0	18	60	8000	500	1000		
SR 1912 (HAWKINSTOWN RD)								
MOCKSVILLE-SR 1914	1.20	18	60	7000	1100	1000	L	100
SR 1914-NC 150	1.10	18-25	60	8000	500	500		
SR 1914								
SR 1912-MOCKSVILLE RD	1.30	18	60	8000	-	2000		
SR 1915								
US 601-NCL SPENCER	5.00	16-18	60	7000	450	2700	L	100
NCL SPENCER-SR 2037	0.45	18-20	60	8000	-	3500		
SR 2037-NC 150	0.64	30-36	60	12000	-	900		
NC 150-SR 2100	0.25	52	-	20000	-	4000		
SR 2100-SR 2115	0.67	36	60	14000	-	4000		
SR 2115-SR 2168	3.40	24-16	60	12000	1600	3000		
SR 1941 (WHITE FARM RD)								
SR 1712-US 601	0.78	16	60	7000	2100	3100	L	100
SR 1944 (ENON CHURCH RD)								
US 70-WOODLEAF RD	1.40	20	60	10000	1100	3100		
WOODLEAF RD-US 601	1.80	18	60	8000	1100	3100		
SR 2126 (EARNHARDT RD)								
SR 1002-SR 1004	2.10	20	60	10000	-	5500		
SR 1004-US 52	0.90	16	60	7000	-	2200	L	100
SR 2131 (DUNN MTN RD)								
US 52-SR 1002	3.10	18	60	8000	1000	2000		
SR 2132 (UNION CHURCH RD)								
SR 1004-SR 1002	1.70	20	60	10000	-	300		
SR 2168 (GOODMAN RD)								
SR 1002-EAST SR 1915	0.72	16	60	7000	600	1100	L	100

FACILITY & SECTION	DIST MI	EXISTING X-SECTION RDWY FT	ROW FT	CAPACITY CURRENT (FUTURE)	1981 ADTS	2005 ADTS	RECOMMENDED X-SECTION RDWAY (ULT)	ROW (ULT)
SR 2300								
US 52-E OF MARTIN ST.	0.90	18	60	9000	600	1500		
MARTIN-NCL GRANITE QRY	1.41	20-28	60	10000	-	1000		
NCL-SR 1006(FAITH RD)	0.53	18	60	9000	-	1000		
SR 2308 (OLD STONE HOUSE RD)								
US 52-SR 2126	1.15	16	60	7000	800	1000	L	100
SR 2313 (BYRD RD)								
FAITH-SR 2300	1.02	18	60	9000	1200	1500		
SR 2314 (LEGION CLUB RD)								
SR 2300-N OF SR 2385	1.34	18	60	9000	1500	2000		
SR 2316 (COLEY RD)								
SR 2300-N OF SR 2315	0.60	18	60	9000	300	1000		
SR 2379 (ODDIE RD)								
SR 2380-SR 2377	0.70	20	60	10000	300	500		
SR 2380 (ST LUKE'S CHURCH RD)								
FR US 52	0.20	24	60	10000	300	500		
	1.30	16	60	7000	300	500	L	100
SR 1004	1.40	20	60	10000	300	500		
SR 2528 (JULIAN RD)								
FAITH-CONCORD	1.0	20	60	10000	-	-		
CONCORD-TOWN CREEK	1.70	16	60	7000	-	1500	L	100
	0.34	24	100	10000	-	1500		
SR 2539 (SEE PEACH ORCHARD RD)								
STATESVILLE BLVD								
WOODLEAF-W.INNES	1.86	52	80-90	20000	10700	27000		
STOKES FERRY ROAD (SR 1004)								
US 52-WEST OF SR 2377	4.81	18	60	9000	3700	6000		
THIRD ST								
SALISBURY-YADKIN	0.10	18	60	6000	3700	2000		
YADKIN-SR 1915	0.40	30	60	10000	5300	2000		
(SEE SR 1915)								
US 52								
STOKES FERRY-CROWELL LANE	2.60	52	60	20000	8000	1200		
US 52 RELOCATION								
EXISTING US 52 SOUTHEAST								
GRANITE QRY - I-85	4.58	-	-	-	-	10000-13000	L	100
US 70								
WOODLEAF-SR 1724	2.12	24	80	10000	10400	20000	F	90

FACILITY & SECTION	DIST MI	EXISTING X-SECTION RDWY FT	EXISTING X-SECTION ROW FT	CAPACITY CURRENT (FUTURE)	1981 ADTS	2005 ADTS	RECOMMENDED X-SECTION RDWAY (ULT)	RECOMMENDED X-SECTION ROW (ULT)
JUNIPER STREET EXTENSION								
MORRISON-STOKES FERRY	0.20	24	30	10000	-	4000		
WALNUT STREET								
RYAN-HARRIS	0.44	24-36	50-80	7000	2000	4000		
EXTENSION TO KLUMAC	0.10	-	-	-	2000	4000	K	60
WILKESBORO RD (SR 1703)								
MESSNER-WOODLEAF	1.20	20-28	60	12000	-	5000		
WOODLEAF ROAD (SR 1702)								
SR 2034-STATESVILLE	1.90	18	60	9000	3600	6000		
STATESVILLE-MILFORD HILLS	1.29	24	80	10000	6200	13000	F	90
MILFORD HILLS-NC 150	1.17	24	100	10000	-	11000	F	90
NC 150 - US 29-601	0.61	38-48	150-200	16000	-	10000		
US29-601-I-85	1.20	48	150	(20000)	-	15000		
WOODLEAF RD EXT								
US 29-601 - KLUMAC RD	1.04	48	-	20000	3500	15000		

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